

040271

JPRS-EEI-85-091

27 November 1985

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

DTIC QUALITY INSPECTED 6

Reproduced From
Best Available Copy

20000124 030

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

DTIC QUALITY INSPECTED 1

5
112
A06

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

27 November 1985

EAST EUROPE REPORT

ECONOMIC AND INDUSTRIAL AFFAIRS

CONTENTS

ALBANIA

Excess Consumption of Materials Deplored (ZERI I POPULLIT, 7 Aug 85).....	1
--	---

CZECHOSLOVAKIA

Obzina Article on Development Focus Cited (CTK, 12 Nov 85).....	4
Indiscipline in Agricultural Sector Criticized (PRAVDA, 17 Oct 85).....	5
Current Wage Problems Examined (Bratislava Domestic Service, 8 Nov 85).....	7
Dismissal of Incompetent Managers Reported (Vaclav Pergl; RUDE PRAVO, 18 Oct 85).....	8
Citizen Complaints About Vandalism, Shortages Aired (ZEMEDELSE NOVINY, 21 Oct 85).....	10
Dam Project Construction Site Inspected (Ladislav Mikus; Bratislava Domestic Service, 29 Oct 85)..	12
Briefs	
Shortcomings Noted in Bakery Goods Production	13
Energy Commission Views Performance, Preparations	13
Economic Talks Begin in Buenos Aires	14
Lenart in Liptovsky Mikulas	14
Shortcomings in Liquid Gas Containers	14
Lenart Addresses Economic Seminar	14
Iraqi Oil Talks	15
Surplus Inventory on Sale	15

GERMAN DEMOCRATIC REPUBLIC

Nuclear Heating Stations; Prospects for Expanded Use Studied (Alfred Langner; ENERGIETECHNIK, Vol 35, No 3, Mar 85).....	16
---	----

POLAND

Planning Commission Task Force Works On Changes in Economy (RZECZPOSPOLITA, 22 Oct 85).....	51
New Organizational Pattern for Foreign Trade (RZECZPOSPOLITA, REFORMS GOSPODARCZA, No 61, 19 Sep 85)...	52
Baka Maintains Reform To Enter New Stage (RZECZPOSPOLITA, 9 Oct 85).....	58
Five Hundred Top Manufacturing Enterprises Ranked (ZARZADZANIE, No 6, Jun 85).....	60
Shipping, Shipbuilding, Sea Transport, Fishing Statistics 1983-1984 (Czeslaw Wojewodka; SEEWIRTSCHAFT, No 9, Sep 85).....	75
Briefs	
Polish-Mongolian Cooperation	88
FSO-Renault Negotiations	88
Polish-British Economic Talks	88

YUGOSLAVIA

Editorial Discusses Increased Budget, Taxes, Inflation (Editorial; EKONOMSKA POLITIKA, 23 Sep 85).....	89
Croatian Official Discusses LCY Document on Personal Earnings (Andjelko Jukic Interview; DANAS, 1 Oct 85).....	92
Andov Discusses New Concept of Personal Earnings (Stojan Andov; KOMUNIST, 11 Oct 85).....	100
Briefs	
Private Shops in Serbia	107
Agro-Industrial Foreign Trade	107
Monthly Expenses of Population	108
Defective Goods Returned	108

ALBANIA

EXCESS CONSUMPTION OF MATERIALS DEPLORED

Tirana ZERI I POPULLIT in Albanian 7 Aug 85 p 1

[Article: "A Stricter Regime of Savings in the Use of Materials"]

[Text] Material outlays in production consume about 60 percent of the gross national product, while in particular branches and sectors, this figure is even greater. For that reason, the use of a strict regime of savings of raw materials, auxiliary materials, and fuels has always constituted a major front in the work of the party and in that of state and economic organs and mass organizations to increase the effectiveness of the economy. In the execution of tasks assigned in this area, as well as of instructions of Comrade Enver Hoxha to introduce deep innovations everywhere with regard to cost, while reviewing outmoded cost structures and estimates, improving control, and applying many other measures which are linked with the optimum use and savings of material values and labor, general and particular measures have been taken by certain labor collectives, and positive results have been achieved. But along with these, in many enterprises of various branches of the economy, there has been further overspending, above the plan, for steel, coal, solar oil, mazut, electrical energy, coke, etc.

The 12th plenum of the party Central Committee again emphasized the need to raise work and responsibility for savings of raw materials and other materials to a higher level. The work of party organs and organizations, as well as their levers, must lead in strengthening the feeling and spirit of economizing everywhere and in everything, as well as in taking the necessary organizational, technical, and technological measures to place the use of materials of production on a more scientific and controlled basis. These measures must be taken not only to eliminate overexpenditures, but also to realize the designated objective that planned production should be achieved with less consumption of raw, auxiliary, and energy materials.

It is not possible to speak about planning and restrained use of materials without technical norms established on a scientific basis and according to advanced experience. But what is, in fact, the level of norms setting? Norms are used for more than 90 percent of materials, of which about 72 percent are technical. Certainly, this average is not the final scientific and technical limit of material norms setting, especially because behind the advanced level of some enterprises are concealed the backward levels of

certain other enterprises. When we seek restricted norms, it is unjustifiable that, everywhere in the enterprises of the systems of the Ministries of Communications, Communal Economy, and Agriculture, there are still materials without the proper norms. The same thing must be emphasized for some auxiliary materials, chemicals, and spare parts used by certain enterprises of the Ministry of Industry and Mines. It is to be criticized that even though tasks involving norms of electrical energy were assigned early, work is still carried out without norms in some sectors, especially in agriculture.

The technical norming of materials, like all other measures for the strengthening of the practice of savings, is promoted by the militant spirit of the communists and all the workers, who place the general interest at the forefront. This is achieved with a greater struggle against foreign concepts of subjectivism, which appear in tendencies that are harmful to the planning and fulfillment of tasks involving the lowering of costs. Herein lies the source of outmoded norms which are retained, of indifference to progressive experience, of slowness in unifying norms, etc. It is unacceptable that from one food enterprise to another there are perceptible differences in norms for use of sugar, commodities, fuel, etc., and the ministry must exact responsibility for this and take appropriate measures. In another case, work is carried out in the Cerrik TEC [thermoelectric power plant] on the basis of the stipulated coal norm, while thousands more tons of coal are used in the Tirana plant. Examples may also be given of differences in fuel consumption from one auto repair shop to another and from one machine and tractor station to another. In enterprises manufacturing one type of product, there is no reason to have different norms or coefficients for the effective use of raw materials, as happens in fact with such raw materials as cloth, sheet iron, steel, and timber. There has been repeated assignment of the task to unify the norms of their planning on the basis of advanced experience. Nevertheless, the variations and differences which are observed indicate "differences" in understanding and evaluating this important problem, as well as in the method of organizational, management, and control work of cadres and specialists in branches of enterprises and agricultural cooperatives, in sections of executive committees of people's councils in districts, and in the directorates of ministries, especially the accounting directorate. In this area, the role of the Ministry of Finance and the State Planning Commission must be more active, not relying on the cadres for observations, but giving them ways to solve problems.

Persuasive work of the party organizations and all their levers must precede the scientific norming of raw materials, other materials, fuels, and electrical energy. The point is that every worker must become responsible for the reserves that exist. It must become clear to everyone that by using a little less cotton or cloth, a little less steel or sheet iron, a little less fuel or electrical energy per production unit, revenues increase, foreign currency is saved and its sources grow, capital increases, the economy is strengthened, and the well-being of the people is raised. But the way to convince people involves taking organizational and scientific measures, organizing the work of production in a better manner, improving technology and advanced methods, and - above all - strengthening control

over tasks in this area. The positive example of the role played by this complex of measures has yielded us clear achievements and pledges recently in many prominent collectives. In response to resolutions of the 12th plenum of the party Central Committee, the workers of the electrical wire plant in Shkoder, the "Petro Papi" instrument plant of the NPN [enterprise for various products] in Pogradec, etc., have made it their valiant and revolutionary objective to perfect the technical norm and lower costs. Great attention must be paid to this experience, since it is the expression of the mobilization and the militant spirit of the communists and all the workers for continually higher results. It is not possible to speak of savings on the scale which is required and as the examples given attest to without strong daily control, as the 12th plenum of the party Central Committee instructed. But it is impossible to say that this control is at the requisite level from the enterprises up to the appropriate ministry directorates. As evidence of this, the following may be cited: in the "Steel of the Party" metallurgical combine, the coal norm is exceeded in the production of steam, and the gasoline norm is exceeded in foliation; electrical energy norms are exceeded in the ferrochrome plant in Burrel and the ammonium nitrate plant in Fier; there is excessive use of solar oil in the glass factories in Korce, Kavaje, and Tirana. Under these conditions, rigorous control from the work place and in all the designated links must ensure high discipline for the application of all measures connected with savings.

12249/13046
CSO: 2100/2

CZECHOSLOVAKIA

OBZINA ARTICLE ON DEVELOPMENT FOCUS CITED

LD121407 Prague CTK in English 1321 GMT 12 Nov 85

[Text] Prague, Nov 12 (CTK)--"At the present stage of history we are facing the pressing task of maintaining world peace and achieving superiority in economy", wrote the weekly HOSPODARSKE NOVINY in its latest issue.

In an article on the Czechoslovak scientific and technological developments in the 8th Five-Year Plan period (1986-1990) and until the year 2000, Czechoslovak Deputy Premier and Chairman of the State Commission for Research and Development and Investment Planning Jaromir Obzina wrote that "We are facing this task...once we have surpassed capitalism in the political, social, cultural and educational fields, once we have achieved military strategic balance on a world scale and a high level in many spheres of science and research."

The management of research and development in Czechoslovakia is concentrating on the development of electronics and computer technology, on speeding up the introduction of robots, automation and flexible production systems, and large-scale application of lasers and composite materials. Necessary resources are being sought to increase the rate of exploitation of nuclear energy and make the construction of nuclear power plants more economical. Czechoslovakia also is creating conditions for the development of biotechnology with the aim of staying at the world level.

The Czechoslovak deputy premier and chairman of the state commission for research and development and investment planning further wrote that Czechoslovakia, as do other socialist countries, takes measures to proceed to the intensive development of national economy. To this end it is necessary to double labor productivity by the end of the century and to improve the levels of work organization. It is necessary to eliminate the degree of technological dependence on the most advanced capitalist countries, which constitutes potential danger to Czechoslovak economic and social developments. At the same time, the country must achieve full self-sufficiency in food and substantial growth of quantity and quality of consumer goods production, and reduction of material and energy consumption by at least 30-50 percent.

/9871

CSO: 2400/45

CZECHOSLOVAKIA

INDISCIPLINE IN AGRICULTURAL SECTOR CRITICIZED

AU221542 Bratislava PRAVDA in Slovak 17n Oct 85 p 2

["PA-FG"-signed article: "On the Deliberations of the Commission Directing Plant Production; Lack of Discipline Steals From the Harvest in Places"]

[Excerpts] Bratislava--The Commission of the Slovak Ministry of Agriculture and Food Directing Plant Production held a session in Bratislava yesterday [16 October]. The session was presided over by Deputy Minister Jan Sabik.

The commission concentrated its attention on the solution of some disproportions regarding supplying the market, creating winter stocks of potatoes, vegetables, and fruit, and ensuring the transportation of corn from the West Slovak region to places of consumption.

Regarding potatoes, the cause of the current concern is the poor crop of potatoes in the Central and East Slovak Regions, which--according to the latest estimates--will not fulfill even half of the plan of state procurement of potatoes for human consumption. The situation is being solved by imports from the Czech Socialist Republic and from abroad. However, the situation could be resolved substantially earlier if some producers were more realistic when it comes to assessing their own capabilities and did not confuse their wishful thinking with reality, reality which emerges in the end anyway, and which usually not only fails to contribute to the solution of the situation, but considerably complicates it.

And this applies not only to potatoes, but also to certain kinds of vegetables, concerning which this year, too, estimates were thrown about like market people haggling on the town square. Specifically, as regards fallen apples, in several places growers complain that nobody wants them. At the same time representatives of the General Directorate of the Distillery and Canning Industry told the commission that they will take everything, and that they even have a shortage of fallen fruit. Or take tomatoes. In some places in the West Slovak region part of the crop is being plowed under, while they are allegedly being carted to Kosice all the way from the South Moravian region.

But it is corn that causes the biggest worry. There is a shortage of drying plants, but also of railroad freight cars to transport it from the West Slovak

region. In an effort to speed up its gathering, measures have been adopted which involve having the corn harvested in the West Slovak region "run" through the drying plant only once and drying it to the standard humidity only at the place of consumption where at present they have free drying capacities.

On the subject of irrigation, it seems unbelievable that during the season, out of about 300 irrigation equipment users, only 40 (all of them in the West Slovak region) were using this for a full 24 hours. And now in the fall, despite the drought before and after sowing, only 12 agricultural enterprises have been irrigating for a full 24 hours. Is this not over-expensive indiscipline, particularly since the state helped users of irrigation equipment by enabling them to use it during times when others had to stop using electric energy?"

/9871

CSO: 2400/44

CZECHOSLOVAKIA

CURRENT WAGE PROBLEMS EXAMINED

LD082352 Bratislava Domestic Service in Slovak 1730 GMT 8 Nov 85

[Text] Milan Blaha, editor of NOVE SLOVO reports on current problems of remuneration: Since the start of the year, our most advanced collectives have begun to adopt stricter working conditions as part of the program of the second stage of increasing effectiveness of the wage system. Despite this we are encountering the problem which was upsetting the fulfillment of the conditions in the first stage. The fact is that many directors of the enterprises, in their effort to avoid conflict with the technical and economic personnel have not only failed to introduce remuneration according to merit, according to real output and quality--that is, to differentiate--but on the contrary they do this in the conditions of the second stage of the increased economic effectiveness of the wages system. Naturally, the implementation of the merit principle is an illusion in this context. How does it manifest itself? It can be summed up under the title that personal assessment has joined the game and is beginning to acquire key importance.

The issue is that in the context of the new state-wide regulation of remuneration of technical personnel and management, the existing wage limits were cancelled and instead a monthly wage tariff and personal assessment were introduced. The latter is a new element in the technical and management personnel remuneration system and takes into consideration, apart from outlined preconditions such as achieved standards of education, long-term work achievements. And this is where the problems start. Some complain that although higher education is not prescribed for them, their achievements are better than those of personnel with higher education. The staff with higher education are also--and rightly so--asking why did they study if they are to get as much or sometimes less, than those with intermediate education. And so a philistine solution is taken. If the regulation cannot be used, then personal assessment will do. In other words, personal assessment serves to level-out basic pay, which has to be reduced owing to lack of qualifications. It is obvious that this is a new form of egalitarianism and a total misunderstanding of the thought, expressed with such urgency by Comrade Husak at the 16th party congress--that it is necessary to overcome more decisively egalitarian tendencies and other false tendencies--the so-called social attitudes towards remuneration.

/9871
CSO: 2400/45

CZECHOSLOVAKIA

DISMISSAL OF INCOMPETENT MANAGERS REPORTED

[Editorial Report] Prague RUDE PRAVO in Czech on 18 October on page 3 carries a 1,400-word article by Vaclav Pergl entitled "Steps Toward Recovery." The article deals with the "poor managerial and organizational work" at the Sigma plant in Ceska Trebova in East Bohemia, which resulted in the replacement of its director, Jiri Dorskocil, in mid-1985 as well as in changes in "other functions."

Pergl says that, because of the "irresponsible approach" of the enterprise management, the Sigma plant, which only 2 years ago was receiving "one award after another," has since the beginning of 1984 fallen significantly behind in plan fulfillment. The mistake of the Sigma management, according to Pergl, was that it concentrated on the development of only one type of product--"production for the nuclear program"--and was caught completely unprepared when the Sigma general directorate "limited this production." Although the management and the party organization knew well in advance of this structural change, he says, they did not prepare alternative production programs but "temporized" and "speculated" that the change would be only temporary and that everything would return "to the old tracks." The result was "growing nervousness," "deepening conflicts among individual divisions in the enterprise," and "chaos in production." All these problems also adversely affected the "authority of the party organization and the enterprise management" and brought about a "deterioration of the political situation in the enterprise."

Pergl says: "Mistakes of such gravity could no longer be passed over in silence. It was no longer possible to give credence to further promises and assurances of the management. One experience was enough. Following a thorough analysis of the political-economic situation carried out by the general directorate and the district party committee, Jiri Dorskocil, the enterprise director, was recalled from his post in mid-year. Vilem Harlender, until then deputy director of the Sigma plant in Opava in charge of technology, was appointed new director. There continue to be, however, serious problems with appointments for other plant functions because there are no reserve cadres for the posts of department heads, deputy directors, and foremen." The situation is made even more complicated by the fact that 98 employees, including deputy directors, heads of major departments, technicians, designers, and workers, have given notice since the beginning of the year. A total of 37 of them have already left the enterprise.

In addition to the cadre changes, the enterprise party organization also imposed "party punishments" on "four leading managers" and "expressed dissatisfaction with six more comrades, including Jam Pterka, chairman of the enterprise committee of the Revolutionary Trade Union Movement, for inconsistent controls." Pergl complains, however, that all these steps came too late and only at the behest of the district party committee. "For a long time," Pergl says, "the party organization did not have its own opinion on the situation, uncritically accepted Comrade Doskocil's assurances of plan fulfillment, and underestimated and inconsistently applied its right to control."

In concluding the article, Pergl reports on the "program of consolidation" that has been adopted at a meeting of the enterprise party organization in August and on the efforts of the new management to bring about a recovery.

/9871

CSO: 2400/44

CZECHOSLOVAKIA

CITIZEN COMPLAINTS ABOUT VANDALISM, SHORTAGES AIRED

[Editorial Report] Prague ZEMEDELSKE NOVINY in Czech on 21 October on page 3 publishes in the "Readers' Letters" column two letters, one complaining about vandalism by children, and the other, rather irate, bemoaning the lack of spare parts for bicycles, mentioning that "formerly" things used to be better in that respect.

In the first letter, H. Voctarova, wife of a construction company foreman in the Central Bohemian town of Brandys nad Labem writes that her husband, dejected, told her that morning that "our local kiddies" vandalized his project--the construction of a new school building--and smashed a glass panel worth kcs 6,500 and broke to pieces 100 polystyrene boards. "This is not the first case. A month ago at the housing development (in a locked storeroom) they put holes in a great number of bags of cement. They got in through the ventilation shaft, and little children's footprints were around the bags," Voctarova writes, and wonders what these children "will be like when they grow up."

In the second letter addressed to the editor, J. Behal from Otrokovice writes that 4 years ago he bought a collapsible bicycle, and last year he needed a new center axis, but was told in the shop that that particular type and size was no longer in production. "This is incomprehensible to me, but so are many other things. I am 61 years old and when I formerly needed some part for a bicycle, I went to the shop and got it. And now...? You hardly ever get it. The salesmen only say: We do not have it, we do not have it..." Although what is involved is not large or expensive spare parts, only penny-worth things, such as various screws and so forth. "And a new Favorit [a CSSR-made sports bicycle--FBIS] You cannot get it either. Can anyone explain to me why these bicycles and spare parts are not available and when they finally will be?" Behal asks at the end of his letter.

Then follows an answer to Behal's letter by Engineer Frantisek Havlena, "commercial director of the trust of the enterprises of engineering consumer goods Prago-Union in Prague," who explains the spare parts shortages thus: His enterprise is neither the manufacturer nor the supplier of spare parts for bicycles. Pedals, including spare parts for them, are manufactured and delivered to the market by the Obzor Kosicei production cooperative, seats by the Koh-i-noor Decin enterprise, and screws and other parts are supplied by the metallurgical secondary production organization. In the conclusion of his

letter, Havlena "recommends" that Behal "accurately define" his requirement of spare parts and get in touch with the ESKA enterprise in Cheb, which is the "decisive manufacturer of bicycles in our country."

/9871

CSO: 2400/44

CZECHOSLOVAKIA

DAM PROJECT CONSTRUCTION SITE INSPECTED

LD291505 Bratislava Domestic Service in Slovak 1130 GMT 29 Oct 85

[Report by station editor Ladislav Mikus]

[Text] A party economic and inspection day has been held at the construction site of the Gabcikovo-Nagymaros dam project. Comrades Josef Lenart, Peter Colotka, Miroslav Hruskovic, Frantisek Pitra, and other officials were present. Ladislav Mikus, our editor, telephones to report on the purpose of this working visit.

First of all, the guests inspected a 17-kilometer-long section of the supply [privodni] canal and 33-meter-deep hole of a hydroelectric power station, (Stupne Gabcikovo), which is now being lined with concrete. Then, shortly after 1030 the guests met with the Gabcikovo-Nagymaros construction workers in the site social club near (Horny Bar) at the aktiv, which was opened and being chaired by Comrade Josef Lenart. In the opening of his speech, Comrade Lenart welcomed Frantisek, Pitra, secretary of the CPCZ Central Committee, Ladislav Gerle, deputy federal premier, and other representatives of federal agencies. In the opening speech he recalled the importance of this project for our energy and irrigation systems and for water transport. He then handed over to Deputy Federal Premier Ladislav Gerle who gave a detailed report on the problematic issues of this construction.

He stated that during the course of this year the sum total of construction costs should be 900 million Kcs. However, this volume will not be achieved. He therefore demanded that work teams be stabilized and that the number of workers engaged in certain professions, mainly those in carpentry and steel construction erection be increased. During the next 2 years, the biggest volume of construction works worth 1.75 billion Kcs will be achieved. The deputy federal premier demanded that accurate schedules for construction be elaborated and emphasized that all efforts must be aimed at putting the first aggregate into use in 1990.

At present, the aktiv is continuing the discussion. The site senior management and resort ministers are taking part in this discussion.

/9871
CSO: 2400/44

CZECHOSLOVAKIA

BRIEFS

SHORTCOMINGS NOTED IN BAKERY GOODS PRODUCTION--A plenary session of the Slovak Committee of the Union of Farmers Cooperatives is discussing in Bratislava today the strategy of the union in ensuring measures for developing the agricultural and food complex. At a news conference in Bratislava, representatives of the dairy industry and bakery mills industry reported on their tasks in the Eighth 5-Year Plan. During the conference it has been stated that per capita bread and bakery product consumption is 90 kg per annum in the Slovak Socialist Republic. Consumption of dairy products in Slovakia in comparison with the Czech Socialist Republic, is 45 kilograms less, and is on the whole very low. The reason is found in quality and range of products offered. Low quality and the narrow range of dairy products is caused primarily by shortcomings in available packaging, such as aluminum foil, bags, and by a shortage of machinery and technology. These shortcomings are then reflected in a lack of flavored milk-based beverages, curd cheese products and long-life cheese spreads. Therefore, in the Seventh 5-Year Plan, Kcs 831 million will be spent on construction of new modern plants and on purchasing modern processing technologies. As far as bakery products are concerned, the supplies to the market are balanced, although the low quality of certain bakery products is criticized from time to time. [Summary] [Bratislava Domestic Service in Slovak 1130 GMT 22 Oct 85] /9871

ENERGY COMMISSION VIEWS PERFORMANCE, PREPARATIONS--The Federal Government's Energy Commission met today in Prague, chaired by the commission's chairman, Federal Deputy Premier Ladislav Gerle. The commission discussed the supply of fuel and energy to industrial and domestic consumers in the past few months, and preparations for the forthcoming winter period. It noted that the extraction trends for solid fuels and stockpiles already built up in the power system showed that the necessary attention had been devoted to preparations for winter in the fuel and power sectors. At the same time, however, it stressed the need for discipline on the part of consumers in order to cope successfully with the most taxing season of the year from the fuel and energy point of view. The commission also discussed a preliminary draft of a state target program for the rationalization of consumption and utilization of fuel and power for the Eighth 5-Year Plan, with particular emphasis on economies of oil and oil-based products. [Text] [Prague Domestic Service in Czech and Slovak 1600 GMT 22 Oct 85] /9871

ECONOMIC TALKS BEGIN IN BUENOS AIRES--The Czechoslovak-Argentinian Joint Economic Commission opened in Buenos Aires today. Our delegation is led by Bohumil Urban, minister of foreign trade; the Argentinian delegation is led by Ricardo Campero, secretary of foreign trade. The purpose of the meeting is to outline measures for development of cooperation between the two countries for 1986. [Text] [Bratislava Domestic Service in Slovak 2030 GMT 4 Nov 85] /9871

LENART IN LIPTOVSKY MIKULAS--Jozef Lenart, member of the Presidium of the CPCZ Central Committee and first secretary of the CPSL Central Committee, paid a working visit to the Liptovsky Mikulas district today. At a meeting with district party and state officials, he was told about the fulfillment of tasks in the district over the last year of the 7th 5-Year Plan, about the course of the annual membership meetings of the primary party organizations, and about the preparations for the district party conferences. During a visit to the Tesla enterprise in Liptovsky Hradok, he was told about the fulfillment of the tasks of the state plan and preparations for the 8th 5-Year Plan. He took a special interest in results in applying science and technology, introducing new production programs, and innovation. [Text] [Prague Domestic Service in Czech and Slovak 1900 GMT 31 Oct 85] /9871

SHORTCOMINGS IN LIQUID GAS CONTAINERS--The unsatisfactory state of liquid gas containers and their enforced elimination from production process have in the course of this year considerably upset the running of some of the production units of the Slovnaft Bratislava national enterprise. Because of this big production shortfalls have occurred. By the end of this year the enterprise is to produce almost 30,000 tons of polyethylene. These measures and demands made upon smooth running of production processes were discussed at the annual membership meeting of CPCZ Primary Organization No. 8. Its members adopted a demanding program for the rest of this year and for the start of the next year. [Excerpts] [Prague Domestic Service in Czech and Slovak 1830 GMT 4 Nov 85] /9871

LENART ADDRESSES ECONOMIC SEMINAR--A political seminar on the problems of increasing the standards of management of the national economy was held in Bratislava today by the CPSL Central Committee. In the concluding speech, Comrade Jozef Lenart stressed the significance of using the experiences of Soviet communists in the sphere of management of the national economy to also improve the planned management in Czechoslovakia. The urgent nature of tackling this set of problems calls for harmonizing the plans of labor collectives with the conditions in which they are operating. Improvement of the economic mechanism, Comrade Lenart continued, emerges as a necessity in the sphere of plan preparation. The interests of the entire society must be harmonized with the interests of enterprises. In conclusion, Jozef Lenart, first secretary of the CPSL Central Committee, stressed the significance of supporting the initiative of the working people and stressed that in the coming period, increasing labor productivity must be understood in the dialectical unity with safeguarding the high degree of quality and technological standards of products. [Excerpts] [Prague Domestic Service in Czech and Slovak 1900 GMT 4 Nov 85] /9871

IRAQI OIL TALKS--Minister of Foreign Trade Bohumil Urban today in Prague received Iraqi Minister of Oil Gasim Ahmad Taqi. They discussed the development of mutual economic relations and evaluated the possibilities of Czechoslovak participation in the realization of the development program of the Iraqi oil industry. Minister of Metallurgy and Heavy Industry Eduard Saul also met with the Iraqi guest. They discussed the cooperation between the two countries up to now and about the perspectives for its further development in metallurgy and heavy engineering. [Text] [Prague International Service in Czech and Slovak 1600 GMT 85] /9871

SURPLUS INVENTORY ON SALE--The inventory increases in the Czechoslovak national economy during the Seventh 5-year Plan will amount to approximately Kcs 47 Billion--that is 9 billion more than planned. This state of affairs constrains the national income. The 22nd market show of unused inventory will contribute to accelerating the turnover of certain commodities from their production to their purchase and use. The market show will be held in the A-1 pavillion of the Brno fair exhibition grounds on 3-7 November, from 1000 to 1800 hours daily. Yesterday's [1 November] press conference revealed that 79 Czechoslovak organizations of industry and agriculture have already offered their excess inventory for sale at the Brno exhibition grounds. [Text] [Bratislava PRAVDA in Slovak 2 Nov 85 p 2] /9871

CSO: 2400/45

GERMAN DEMOCRATIC REPUBLIC

NUCLEAR HEATING STATIONS; PROSPECTS FOR EXPANDED USE STUDIED

Leipzig ENERGIETECHNIK in German Vol 35 No 3, Mar 85 pp 98-111

[Article by Dr. Ing. Alfred Langner, Weimar]

[Excerpts] 1. Introduction

Substitution of fossile fuels by nuclear energy has for the long term become an imperative necessity. The main directions of strategy for the development of nuclear energy management in the GDR provide for increased utilization of nuclear energy [1]. Utilization of nuclear energy will be of a different kind in the decades after 1990; while nuclear energy today represents an auxiliary primary energy source which is part of electrical energy production, it will after 1990 grow into the role of a major primary energy carrier [2]. Nuclear energy utilization development is also recognized as important on the international level; the nuclear energy share of the total world energy needs is expected to rise from 2 percent in 1978 to 12 to 13 percent in 2020 [3].

Utilization of nuclear energy will in the long term affect electrical energy and district heating as part of the overall utility energy structure. Heat supply from a nuclear heating power plant is being practiced, among others, in Bilibino, USSR, since 1974. District heating with nuclear energy plants is planned for several cities in the USSR [4],[5]. In the GDR heat supply from nuclear sources is being planned on a long term basis. Results of preparatory studies have been recorded in numerous scientific publications and reports (e.g. in [6] through [23]). Other developed industrial countries are also working on the tasks of supplying heat from nuclear sources [24] to [31].

Provision of district heating media (hot water, steam) from nuclear energy can be based on three technologies:

- Direct heat output from a nuclear power plant,
- District heat from a nuclear heating power plant,
- District heat from a nuclear heating plant.

In the planning studies, which will be reported on below, only such district heating systems are being designed in which nuclear heating plants supply the base load.

District heating of a region or a city is always linked with a multitude of territory related facts. The problem areas of the complex-territorial energetics on one hand, and of regional and city planning on the other hand, overlap especially intensively in the field of heat supply, since about

80 percent of the man-related energy needs (useful energy) in the majority of regions occur as heat [32]; about 50 percent of the man-related energy needs are needs for heat in the low temperature region (up to 200 degree C). The planning studies reside in the area of overlap of "Territorial Energetics" and "Regional and City Planning"; aspects of this inter-disciplinary area thus predominate.

2. Goal of Planning Studies

The long term replacement of fossile fuels by nuclear energy must be carried out under the concrete conditions of the existing systems of settlements. Heat supply from nuclear sources presents a new kind of response to heating requirements. During the preparatory phase for the necessary realization the conditions of the historically grown settlement network must be considered in such a way, that the dimensioning of technical installations and the technology of construction and operation can be realized with maximum benefits for society. Results of the planning studies are intended to help provide foundations for ideas of orders of magnitude and for new tasks, based on the example of four selected supply areas.

3. Heat Supply in the Settlement Net of the GDR

3.1 Settlement Net

The net of settlements is given by the spatial distribution and interlinkages of metropolitan areas, medium size cities, small towns and villages. The settlement net is the basis for site distribution for forces of production. The settlements represent a local concentration and combination of residential and work places with the corresponding facilities, installations and networks of the infrastructure [33].

The settlement net of the GDR has grown historically and has a relatively high stability. The present and future activities in the settlement net serve to improve the economic and social structure within the regions, while the territorial base structure remains unchanged.

The following qualitative and quantitative characteristics are relevant in connection with the future integration of an area-wide district heating supply into the settlement net of the GDR [34]:

--the territorial base structure is characterized by a high degree of industrialization; 38 percent of workers are in industry.

--The net of settlements is relatively dense. Settlements are administratively organized in 7548 communities (Gemeinden). As a GDR mean this corresponds to a community density of about 7 communities in an area of 100 km². Since many communities consist of several localities (Ortsteile), the number of localities (settlements) as a GDR average are about 11.3 per 100 km². The settlement net density in the various districts deviates more or less from the GDR mean; thus the community density in the Gera district is 13.4 communities/100 km² while it is only 4.6 communities/100 km² in the Neu-Brandenburg district.

--Of the 16.7 million inhabitants (INH) of the GDR 23.5 percent live in

6522 rural communities (up to 2000 INH) and 76.5 percent in 1026 urban communities; 26.2 percent of the total population live in the 15 large cities (over 100,000 INH).

--Inhabitant density differs considerably from district to district; the GDR average is 154 INH/km², in the Karl-Marx-Stadt district it is 318 INH/km², and in the Neu-Brandenburg district it is 57 INH/km².

--In some conurbations there are high degrees of concentration of funds and of resources.

Further development of industrial production and of industry-like agrarian production will take place in the existing territorial structure. It is generally important to develop the productive forces at high efficiency in all parts of the settlement net in order to assure a high standard of living. This intensification acts as a stabilizing influence on the existing basic structure in the settlement net.

3.2 Heat Supply

In order to cover the need for heat in the low temperature region (up to 200 degree C), at present all utility energy media types are utilized in quite different proportions: solid, liquid and gaseous fuels, district heating systems, and electrical energy. About 23 percent of the total utility energy is provided by district heating systems (steam, hot, and warm water). Public district heat supply (under jurisdiction of energy combines) has in the last years developed considerably. (Table 1). Almost 18 percent of all apartments in the GDR were in 1982 supplied with district heating.

District heating has been expanded considerably in the past years, especially in the capital, the district cities, and at newly constructed, large residential sites.

Decentralized heat supply dominates in most cities and communities of the GDR. The majority of apartments are heated with individual solid fuel stoves. Industrial and agricultural enterprises operate their own heating plants; installations of the infrastructure supply their heat with their own boilers, whose capacity is relatively low. Decentralized heat supply has a series of disadvantages: low energy transformation efficiency, large demand for labor, relatively great environmental impact etc. The level of decentralized heat supply must also be considered low with regard to working and living conditions.

Considering measures for territorial rationalization, initial steps are possible which will lead to an increase of the degree of centralization. The number of non-public heat supply areas presently still exceeds the number of public heat supply areas by a large number.

4. Planning Study Results

Studies were made for four specific areas in the settlement net of the GDR for district heating supply with a nuclear heating plant. The following guidance was given for the studies:

- Design of district heating systems for the year 2020 taking into account the long-term development of the area,
- Inclusion of a nuclear heating plant for maximum replacement of raw brown coal,
- Increase of degree of centralization of heating supply coverage,
- Extensive use of existing and still functioning installations and nets.

The studies are characterized as planning studies, and are preliminary to detailed planning documents. The methodology and the representation of results take this into account [35],[36],[37].

4.1 Characterization of Areas

The areas which were analyzed for the planning studies for long term development of district heating with a nuclear heating plant are called "supply areas". Characteristics of these supply areas have been minimized and are relevant to the task.

Supply Area A

- Large city with approx. 210,000 INH; estimated for the year 2020 are 230,000 INH (Process of urbanization),
- Industry: Machine construction, office machines, electronics, shoe and textile manufacturing,
- Administrative city area: 106 km^2 , Table 2 shows the area utilization structure of the city. The actual city functional area (built-up area) where heat demand is expected, is about 35 percent of the administrative area.
- The city functional area is subdivided into 32 structural areas: 1 central area, 6 residential areas, 18 mixed (residential and industrial), 3 industrial areas, 3 green spaces, 1 waste area. As in many historically developed cities of the GDR, the mixed areas dominate.

Supply Area B

- Large city with 105,000 INH; 115,000 estimated by 2020 (Urbanization).
- Industry: apparatus construction, glass manufacturing, pharmaceuticals,
- Administrative area: 58 km^2 ; Functional city area 25 km^2 i.e. 43 percent of administrative area.
- Inhabitant density, related to administrative (city functional) area will increase from 1,810 (4,200) INH/km^2 at present to 1,980 (4,600) INH/km^2 in 2020.

--The city functional area divides into 13 structural areas: 1 central area, 7 residential areas, 2 mixed areas, 3 industrial areas.

In this major city, residential structural areas are in the majority.

Supply Area C

--Economic region with 18 industrial and agriculturally oriented communities: 12 cities and 6 rural communities.

--Approx. 82,000 INH live in an administrative area of 273 km^2 ; while the community density approx. corresponds to the GDR average, inhabitant density in the economic region is twice that of the mean of the Republic (Table 3). Number of inhabitants will not increase by 2020.

--Production structure: Mining, chemicals, metal processing, textile manufacturing, agriculture.

--The economic region is approx 40 km long and 7 km wide.

Supply Area D

--Large city and environs: about 430,000 INH, 450,00 by 2020.

--Supply area covers an administrative area of about 570 km^2 (about 15 percent) of the total surrounding area of about $3,850 \text{ km}^2$ (100 percent). Environs cover area surrounding city with radius of 35 km.

--The supply area, which was formed by the routing of the district heating lines, includes 35 communities; INH distribution differs from GDR average. Over 90 percent of inhabitants live in urban communities. (Table 4).

--Industry: Metallurgy, chemical industry, glass-ceramics, textiles, equipment construction, machine construction.

--Agriculture: industrialized plant and animal production, food stuff production.

--The four selected supply areas mirror the real situation in the settlement net of the GDR but they do not claim to be representative.

4.2 District Heat Requirements

4.2.1 Definition

The total heat needed by an area, which could be supplied by the known district heating media hot water, warm water, and steam, is defined here as district heat requirement. This includes heat supplied for space heating, for warm tap water and for technological processes using low temperatures (up to 200 deg. C) or partially medium temperatures (200 to 400 deg. C). The thus defined district heat requirement is determined in two ways: District heat power requirements and district heat quantity requirements [9].

4.2.2 Methodology

Determination of the maximum district heat power requirements is made in accordance with the mandatory standard [38] according to the relation:

$$P_{Qmaxjt} = k \cdot \sum_i P_{QAnit}, \quad (1)$$

where P_{Qmaxjt} is the maximum district heat power requirement for the region j (structural area, community, city) in the year t,

P_{QAnit} is the total connected load of the region (user group) i in the year t

k is a general correction factor

The correction factor considers [38]:

- the utilization factor of the installed load v,
- the simultaneity factor g,
- the maximum heat loss power in the district net h, and
- the factor of realization probability.

This defines the general correction factor:

$$k = v \cdot g \cdot h \cdot r. \quad (2)$$

The standard provides recommended values for the individual factors.

It has proven useful in the planning studies to differentiate between three different user classes within an area j : population, industry, and communal institutions (Infraregion). In order to cover the differentiated development of urban structural areas sufficiently, the structural areas of the supply areas A and B were considered as regions j. In the planning study for the supply area C a community is considered as region j.

The maximum district heat power requirement of the total supply area $P_{QmaxVGt}$ in the year t is calculated from

$$P_{QmaxVGt} = g_j \cdot \sum_j P_{Qmaxjt}, \quad (3)$$

Here g_j is the simultaneity factor between the regions j; in general one can set $g_j = 1$.

In the determination of the maximum district heat power requirements for the supply region D, a simplified method was used [9]:

$$P_{QmaxVGt} = \sum_i p_{Qmaxjt} \cdot N_{jt}, \quad (4)$$

Here p_{Qmaxjt} is the specific maximum district heat power requirement referred to one inhabitant (INH) in the region j in the year t, and N_{jt} is the number of INH in the region j in the year t.

This simplified, and thus less accurate, method can be justified for long range planning if sufficient accurate values exist for the specific maximum district heat power requirements.

The district heat load density p_{QDjt} is an essential quantity in the design of a district heating system:

$$p_{QDjt} = \frac{P_{Qmaxjt}}{A_j}. \quad (5)$$

The reference area A_j of the region j should, if possible, be the functional area (built up area)^j of the region j ; generally, however, the less meaningful value for the administrative area is available.

The maximum district heat power requirement and the district heat quantity Q_{VG} for a supply area in the year t are related by the number of user hours of the maximum power requirement:

$$TP_{Qmaxvt} = \frac{Q_{vt}}{P_{Qmaxvt}}. \quad (6)$$

The district heat quantity Q_{VG} is calculated with the aid of the annual duration graph for the particular supply area [9].

4.2.3 Results

With the aid of the above cited methods the development of district heat requirements was determined for all four supply areas. Today recognizable social developments in the supply areas were included in all requirements studies. All four planning studies showed, that determination of the district heat requirements was, under present conditions, the most labor intensive task of the studies.

The determined values for district heat requirements of the four supply areas in the year 2020 show little difference between the two large city areas (Table 5 and Figure 1). The heat-intensive industry in the supply area C caused a relatively great power demand during the summer time and thus relatively high annual usage hours, also the specific maximum power requirement with almost 20 kW/INH is very high. Similarly in the supply region D, industry is the cause of the quite favorable summer load share of over 40 percent.

The district heat power requirement is not constant for the four decades considered (Figures 2 and 3). Development of requirements mirrors the social dynamics in the supply area under consideration. In the requirements determination an attempt was made to consider all activities which could be used for rational and economical energy usage today and in the future and which might impact the energy situation. Thus consideration was, for instance, given to the improved physical characteristics after building improvements in the inner cities have been made, and the lower loads required in the new apartment buildings. Causes for increased district heat power demand are seen in the following factors:

- Increase of industrial production by intensivation,
- Construction of new industrial plants and of agricultural establishments,
- Expansion of the infrastructure net,
- Further improvement of working and living conditions,

--Increase of number of inhabitants and number of apartments in urban areas
(process of urbanization)

Development of district heat power requirement in the supply area A (Figure 2) corresponds to a mean annual increase of about 1 percent. Development in area D (Figure 3) is about .9 percent average per year.

Regional distribution of power requirements can be well represented with the district heat load density according to equation (5) (Figures 4 and 5). In both large city areas A and B the greatest load densities are in the central areas. In the supply area A (compact inner city with beginnings of an elongated structure) there will by the year 2020 be some structural areas with relatively high load densities (over 32 MW/km²) which cluster around a line from the north-west to the south-east of the city. (Figure 4). In the region B (elongated city structure), the distribution of structural areas with different district heat load densities is heterogenous because of the historical growth of the city.

The values for the district heat load density in the various structural areas deviate considerably from the mean value for the particular supply area. (Table 6). While the load densities in the central city areas of both cities are above 100 MW/km², thinly built-up residential areas show load densities below 3 MW/km². This shows that it is necessary, also in planning studies for district heating, to decompose the functional city area down to the structural areas.

The regional distribution of district heat power requirements in economic areas can be represented by the maximum district heat power requirements of the individual communities (Figures 6 and 7). The site distribution of the district heat power requirements corresponds to the settlement net in the supply area C (Figure 6); In the supply area D only those communities are shown as heat sinks, which are later planned to be connected to the regional system. Both supply areas contain communities with relatively high summer loads, which are caused by technological processes in the local industries.

4.3 Present Heat Supply in the Supply areas A to D.

District heat carriers are presently used in all four supply areas to provide heat to users. Additionally, there are numerous decentralized installations and individual heaters, which primarily use solid fuels.

District heat distribution in the studied areas is both public and private. In both cases heat carriers are generated in heating plants and in heating power plants. Some of the urban areas have isolated district heating systems with extensive district nets. Heat carriers are hot water, steam, and warm water.

In order to characterize the achieved state of district heating supply in a supply area, characteristic numbers can be used which indicate the degree of district heat supply and the degree of district heat centralization. The degree of district heating supply in year t is defined as follows:

$$G_{rel} = \frac{P_{Q_{abg},t}}{P_{Q_{max},t}} \cdot 100\% \quad (7)$$

or as

$$G_{vd} = \frac{Q_{abs,i}}{Q_{max,i}} \cdot 100\%$$

(8)

The degree of centralization of district heat supply is defined as:

$$Z_{vd} = \frac{P_{Q_{abs}FW,i}}{P_{Q_{abs}}} \cdot 100\%$$

(9)

For a global estimate of the present state of district heat supply, the degree of district heat supply (based on equations (7) and (8)), and the degree of centralization (based on equation (9)), were determined (Table 7). In the years 1981 to 1983 degrees of district heating of 40 to 57 percent were obtained in the studied areas. During that time the degree of centralization in the two studied urban areas was somewhat above 40 percent. If the total area of the supply area and the presently achieved degree of centralization are considered, a quite different picture appears (Figure 8). In the supply area A only 2 out of 23 structural areas are supplied by a central district heating system; the degree of centralization in the central city area--the structural area with the greatest district heat load density (Figure 4)--lies at this time at 27 percent.

4.4 Future District Heat Supply with Nuclear Heating Plants

The district heating systems for the four supply areas were designed in variants. Based on a series of criteria a preferred variant was determined for each area. Development of the district heating systems was envisioned in 2 or 3 development phases, which cover a 20 year period. We show in the following the preferred variants for each supply area as they would appear fully developed in the year 2020.

4.4.1 District Heat Generation

The nuclear heating plant will supply the base load in each supply area; still functioning conventional district heating plants (Brown coal heating plants) will cover peak loads in each supply area (Table 8). The nuclear heating plants will be operated with high utilization hours of the installed power; systems designed for areas A through C were determined as 6,500 h/a to 8,000 h/a. Utilization hours of installed power in the associated peak load plants are relatively high at 710 h/a to 2,100 h/a.

In designing the nuclear heating plants it was assumed that reactors with block powers of 200 MW, 300 MW, and 500 MW would be available. Although it is known that specific investment costs of nuclear heating blocks depend strongly on the block power (Table 9), distribution of the installed base load power was made to two or more blocks, as a matter of supply reliability. The share of nuclear heating plant power as part of the total generated power varies between almost 60 percent in the supply area B and almost 90 percent in the supply area D (Table 8).

Site determinations for nuclear heating plants could not be considered thoroughly in these studies, since the numerous detail problems would have severely affected the assumptions of the studies. Site considerations were thus primarily based on the following factors:

- Maintenance of maximum safe distance to nearest settlement,
- Minimum possible line length from heating plant to distribution points in supply area,
- Sufficient area availability based on size and topography.

The site determinations based on these points resulted in the fact that distance between nuclear plant and the nearest settlement is always less than 4 km. In the planning studies it was assumed that in the settlement net of the GDR safe distances from the heating plant to the nearest settlement would be 2 km.

4.4.2 District Heat Transport

The studies of district heat transport were limited to route determination and a first preliminary dimensioning of the primary network and of the transit lines.

The primary nets will carry hot water with a maximum initial feed temperature of 150 deg.C or 160 deg.C and a maximum flow velocity of 2.5 m/s; a maximum temperature spread of 80 K was assumed. Estimated determination of the required inside pipe diameters was based on the following equation:

$$d = 0,56 \sqrt{\frac{P_q}{v \cdot \Delta\theta}} \quad (10)$$

d in m,
 P_q in MW,
 v in m/s,
 $\Delta\theta$ in K.

Calculations of pressure loss were not made.

Net configurations were usually star networks, and in individual cases also ring nets. Existing networks were included in the considerations. In order to increase supply reliability of the star networks, 3 pipes per line were planned, in a few cases there also were 2- and 4-pipe lines; one preliminary feed line was designed for the maximum summer load requirement, the second preliminary feed line was designed to meet maximum demand during the heating period. In assigning the type of installation of the primary lines first, the less expensive above ground method on supports and mounts was chosen, in built-up areas under-ground sectors were provided.

Primary line routes determined in these studies have the character of a rough first route. In urban supply areas, existing, or already planned heating line rights-of-way were chosen, the needed new routes were integrated into the urban environment after study of existing buildings. Existing water or road networks were used for the routing of the primary net. In determining the route of the transit lines (primary net outside of built-up areas) it was attempted, as far as possible, to run parallel to existing water routes, roads, turnpikes, and railroads. This permits good matching to the topography.

The district heating systems designed for the year 2020 contain the generating stations, the primary routes, and the heat delivery stations in the municipal supply areas A and B (Figures 9 to 11). In both cities star type networks are planned with 3-pipe lines. While in the supply area A the nuclear heating plant can feed the primary net from a central location, the supply area B --because of the topography--shows an extremely one sided feeding of the power plant. The greatest pipe diameters in the area A have a nominal diameter of 1,400 mm and in the area B of 900 mm, both in the return lines.

The district heating systems developed for the industrial areas (Supply areas C and D) include the elements from generating plants to the distribution centers for the supplied communities (Figures 12 and 13). The supply area C is supplied by a star network, which is fed at one of the supply nodes by the nuclear plant supplying the base load which assures district heat supply; supply area D is provided with a ring-star network, in whose supply node a nuclear heating plant with installed power of 3,500 MW generates district heat. Pipe diameters were determined to be nominally 1,200 mm : in the district system of supply area D in proximity to the nuclear heating plant transit routes were planned to have 4 lines with nominal diameters of 900 mm.

4.4.3 System Evaluation

In planning of district heating systems with nuclear heating plants it was assumed, that supply of heat requirements through a district heating system would also be not economical in 2020 for regions with low district heat load density. This hypothesis needs further scientific investigation. The question of an economic service energy medium structure for regions with low energy demand density must be answered for that time, when heating fuels are no longer available.

In the year 2020 degrees of centralization between 80 and 90 percent will have been reached in the supply areas by the district heating systems described in 4.4.1 and 4.4.2 (Table 10). These mean values, valid for a whole supply region, can vary considerably within a region. Thus in supply region A in 2020 10 structural areas out of 32 will not be connected to the district net; in only 8 structural areas of the supply region A will a degree of connection of 100 percent be achieved (= degree of centralization in 2020) (Figure 14). Similarly in region C, which will achieve an average degree of centralization of 90 percent in 2020, there are larger communities with a degree of centralization of 75 percent and less (Figure 15).

The needed investment costs were roughly determined for all designed nuclear district heating systems as follows:

$$I_{FS} = I_{KHW} + I_{SA} + I_{FN},$$

(11)

The estimated investment costs for the planned district heating systems lie between approx. Mark 2.9×10^9 in the supply area B and Mark 12.2×10^9 in the supply area D (Table 11). Although the stated investment costs for the individual system elements are somewhat uncertain, the distribution of required investment costs for the three system element groups is surprising. The investment cost share for the nuclear heating plant is in all supply areas between 72 and 88 percent, which is quite high; the primary transit nets require about 7 to 17 percent of the total costs. The difference of investment cost shares between the urban areas (A and B) and the industrial areas (C and D) is significant.

A detailed comparison of investment costs for the planned district heating systems for the studied areas is possible, using specific quantities (Table 12). Investment costs related to specific system power are between Mark 2.2×10^6 /MW and Mark 3.4×10^6 /MW. If the required investment costs of nuclear district heating plants are related to the substituted raw brown coal quantity for the time from 2020 to 2045, values between approx. Mark 28/t and Mark 40/t appear. The specific investment costs for the net lie between approx. Mark 5.7×10^6 /km and Mark 8.9×10^6 /km.

The degree of air pollution in the studied areas differs considerably. Categories are pollution category 2 (polluted) to category 5 (very strongly polluted). Use of nuclear heating plants will effectively reduce air pollution. In the four investigated areas, starting in 2020, about 25×10^6 t of brown coal can be substituted; thus emission of flue gases is eliminated for this quantity of brown coal.

4.5 Recognizable Problem Areas

During evaluation of the planning studies for nuclear heating plant district heating in four areas of the settlement net, problem areas became apparent, which require further work. Scientific attack of these areas, which are stated below, must, in terms of long range preparation, substitute working hypotheses, assumptions and opinions by solid knowledge. The listing of problem areas does not claim to be complete.

(1) Determination of Heat Requirements in Settlement Net

Present methods and available information are not sufficient. Studies are necessary to develop a "heat atlas" for the settlement net, based on rational methods, sufficient accuracy, and consideration of social development.

(2) Socially Optimum Structure of Future Heat Supply in Settlement Net

When fuels for heat generation are no longer available, heat supply must

be provided almost exclusively from nuclear sources via the utility energy media: district heat and electrical energy. In the long term, an optimal utility energy medium structure--considering possibilities of use of regenerative energy sources [39]--for heat energy supply to the different settlement categories in the settlement network, must be justified.

(3) Appropriate Technologies for District Heat Supply from Nuclear Sources

Depending on technical-economic possibilities, the appropriate technology for district heating must be found for the various supply areas in the settlement net: direct heat from nuclear power stations, operation of nuclear heating power plants, and nuclear heating plants.

(4) Site Requirements and Site Conditions for Nuclear Heat Sources in the Settlement Net.

Matching the requirements which result from the technical-economic concepts of nuclear sources, and the realities of the settlement network, conclusions must be drawn for the nuclear source and site planning. Nuclear safety is a predominant factor.

(5) Optimum Technology and Methods for District Heat Transport over Great Distances.

The new kinds of future requirements for area-wide district heat distribution requires inclusion of all new knowledge for optimum heat transfer with minimum social expenditures, sufficient reliability and quality, and long term utility.

(6) Routing of District Heat Transit Lines

Purposeful layout of transit lines which link communities must be guaranteed by development of routing guidelines. Compatibility with existing roads, and with environmental considerations must be guaranteed when planning district heat transit lines.

(7) Guarantee of Required Service Reliability of Area Wide District Heating Systems with Nuclear Sources.

The required operational reliability of area wide district heating systems must be determined, based on the settlement system. In order to realize the required service reliability, conclusions must be drawn for design and operation of all system elements.

(8) Heat Storage in District Heating System

In order to equalize heat requirements and the most effective heat generation on one hand, and to guarantee a building block for the required service reliability on the other hand, possibilities for long term storage must be explored. Natural conditions in the settlement net are here an essential boundary condition.

(9) Optimum Development Strategy for Large District Heating Systems

Optimum development strategies must be justified, under the conditions of

the settlement net, for large district heating systems with nuclear sources, which guarantee socially effective utilization of the invested funds.

5. Summary

As part of some planning studies, district heating systems with nuclear heating plants were designed for four supply areas in the settlement net of the GDR for the year 2020. After considerable effort a maximum district heat power requirement of between about 8 kW to 20 kW per inhabitant was determined, with annual user hour values of 4,200 h/a to 5,800 h/a--depending on local industry--for the year 2020. In the planned systems nuclear heating plants with installed power of 500 MW to 3,500 MW were envisioned; the primary district networks have pipe diameters up to nominally 1,400 mm. An estimated calculation of investment costs shows that over 70 percent are attributed to the nuclear heating plant and that in the course of 25 years investment costs, referred to the substituted brown coal quantity, will lie between Mark 28/t and Mark 40/t.

BIBLIOGRAPHY

1. Ufer, D. and Gerisch, G., "The Energy Strategy of the German Democratic Republic and its Reflection in the National Energy Balance," *ENERGIETECHNIK* Vol 33, 1983, 12, pp 454-458.
2. "Analytic-Prognostic Examinations on the Strategy to Utilize Nuclear Energy Facilities in the GDR Until 2000," Rossendorf, AdW [Academy of Sciences], Central Institute for Nuclear Research, Study 1983.
3. "Global Energy Consumption," *BRENNSTOFF-WAERME-KRAFT*, Vol 36, 1984, 4, p 122.
4. "Nuclear Power Plants Are Heating Big Cities in the USSR," ND [expansion unknown], Berlin, 5 Jan 83, p 6.
5. "USSR Nuclear Energy Heating Plant Under Construction," ND [expansion unknown], Berlin, 7 Aug 84, p 5.
6. Reetz, B., "Supply of District Heat from Nuclear Power Plants," *ENERGIEANWENDUNG*, Vol 20, 1971, 3, PP 86-92.
7. Gundermann and Schmidt, "Heat Supply from Nuclear Power Plants for Industrial and Communal Utilization," *KERNENERGIE*, Vol 20, 1977, 1, pp 3-6.
8. Jaeger, U., "Study on the Utilization of Heat from a Nuclear Power Plant ...," University for Architecture and Construction, Weimar, Master's Thesis V/1977/42, 1977.
9. Langner, A., "Regional Requirements for District Heat and Possible Ways of Meeting Them," *ENERGIETECHNIK*, Vol 28, 1978, 6, pp 229-233.

10. Herrmann, D. and Krepper, E., "On Some Strategic Aspects of Nuclear Heat Supply," Lecture V 1 of the 12th Colloquium on Power Plant Technologies of Dresden Technical University Held in Dresden on 25/26 Nov 80.
11. Ziegenbein, D., and others, "Possibilities of, and Requirements for Utilizing Nuclear-Produced Low-Temperature Heat," Rossendorf, AdW [Academy of Sciences] Central Institute for Nuclear Research, Study 1981.
12. Herrmann, D., Luetzow, K., Reetz, B. and Ziegenbein, D., "On Some of the Requirements for Developing District Heat Supplies with a View to the Future Utilization of Nuclear Heating Plants," Zittau, Lecture before the 6th Scientific Conference on the Energy Economy of the IHS [expansion unknown] Zittau, 1982.
13. Ziegenbein, D. and others, "Technology and Economy of a Broad Utilization of Nuclear Heating Plants with a Unit Capacity of up to 500 MW in the GDR," Rossendorf, AdW, Central Institute for Nuclear Research, Study 1982.
14. Domagala, "Development of the Structure of Energy Supply in the Industrial Conurbation ... Leipzig," Institute for Energetics, Report No. 12.5495.80 F, 1980.
15. Reetz, B. and Herrmann, D., "Potential Coverage of Heat Requirements from Nuclear Sources," NUCLEAR ENERGY, Vol 27, 1984, 6, pp 230-236.
16. Munser, H., "District Heat Supply. Leipzig," VEB Deutscher Verlag fuer Grundstoffindustrie [VEB German Publishing House for the Basic Industries], 1982, pp 101-118.
17. Schwarz, K., "Energy-Economic Aspects of Supplying Heat from Nuclear Energy Sources," ENERGIEANWENDUNG [Application of Energy], VOL 30, 1981, 6, pp 224-227.
18. Krueger, P., "Making Nuclear Heating Plants Parts of District Heat Supply Systems," Dresden, Technical University Dresden, Energy Conversion Section, Large Reference No 184, 1981.
19. Krueger, P., "Covering Peak Load Needs and Maintaing Reserves in Heat Supply Systems with Nuclear Heating Plants as Base-Load Facilities," Dresden, Technical University Dresden, Energy Conversion Section, Master's Thesis No 1060, 1982.
20. Glaeser, G., Munser, H., Reetz, B. and Schmidt, G., "On System Design of Nuclear Heat Supply Installations," Scientific Center of Dresden Technical University, Vol 31, 1982, 4, pp 97-103.
21. Adam, E. and others, "Design Aspects of Planning and Designing Nuclear Heating Plants," Scientific Journal of Dresden Technical University, Vol 31, 1982, 4, pp 111-117.

22. Herrmann, D. and others, "On Some Requirements for the Development of District Heat Supply in Light of the Future Utilization of Nuclear Heating Plants," KERNENERGIE, Vol 26, 1983, 2, pp 54-58.
23. Herrmann, D., "Some Thoughts on the Relationship between Social Development--Nuclear Energy Utilization--Consumer Energy Structure," KERNENERGIE, Vol 26, 1983, 2, pp 45-49.
24. Karwat, H., "Design Aspects in the Utilization of Nuclear Heat Sources for Sites Close to Cities," Dresden, Lecture V 11 of the 12th Power-Plants Colloquium of Technical University Dresden, 25/26 Nov 80.
25. Ebersbach, K. F. and others, "The Potential Utilization of Low-Temperature Waste Heat from the Grafenrheinfeld Nuclear Power Plant," Research Center for Energy, Munich, 1983.
26. Kraemer, H., "Power and Heat from Nuclear Energy Facilities," BRENNSTOFF-WAERME-KRAFT Vol 35, 1983, 5, pp 236-243.
27. Handl, K.-H., "District Heat from the Beznau Nuclear Power Plant," FERNWAERME-INTERNATIONAL [District Heat-International], Vol 12, 1983, 6, pp 320-324.
28. Kafer, U., "Heat Decoupling from the Philipsburg Nuclear Power Plant," FERNWAERME-INTERNATIONAL, Vol 11, 1982, 4, pp 294-296.
29. Kuusi, I., "Technical and Economic Problems, Research Work and Plans for the Use of Heat Reactors for Heating in Finland," Dresden, Lecture V 2 of the 12th Power Plant Colloquium of Technical University Dresden, 25/26 Nov 80.
30. Vlach, J., "District Heat Supply from Nuclear Energy Sources," Dresden, Lecture V 20 of the 12th Power Plant Colloquium of Technical University Dresden, 25/26 Nov 80.
31. Mayor, I. C., "Heat from Nuclear Energy: Projects in Switzerland," Dresden, Lecture V 21 of the 12th Power Plant Colloquium of Technical University Dresden, 25/26 Nov 80.
32. Langner, A., "The Energy Picture of a City, Weimar," Lecture at the Colloquium of the University for Architecture and Construction, Weimar, on Energy Problems in Urban Planning, 1/2 Nov 83.
33. Boenisch, R., Mohs, G. and Ostwald, W., "Regional Planning," Berlin, Die Wirtschaft Publishing House, 1980.
34. STATISTICAL YEARBOOK OF THE GDR, Berlin, GDR State Publishing House, 1983.
35. Friedrich, B. and M., "Study on the Long-Term Development of Supplying District Heat from a Nuclear Power Plant--Example: ... Weimar," University for Architecture and Construction, Master's Thesis 5/83/1, 1983.

36. Kirchner, J. and Menge, A., "Study on the Long-Term Development of Supplying District Heat from a Nuclear Power Plant--Example: ... Weimar," University for Architecture and Construction, Master's Thesis 5/83/3, 1983.
37. Heinevetter, J. and Noack, U., "Study on the Long-Term Development of Supplying District Heat from a Nuclear Power Plant--Example: ... Weimar," University for Architecture and Construction, Master's Thesis 5/84/31, 1984.
38. TGL 190-271/01 [Technical Quality and Procurement Standards], "Construction of District Heat Systems. Principles for Determination of Peak Heat Loads," 1976.
39. Weichelt, G., "Contribution to the Utilization of Natural Regenerative Energy Resources in Cities," Weimar, University for Architecture and Construction, Doctoral Thesis A, 1983.

Draft received on 10 Dec 84.

TABLES

Table 1: Development of Public District Heat Supply in the GDR

Kenngröße		Index	
1		1970	1982
		2	3
3	1 Spezifischer Anschlußwert in kW/10 ³ EW	100	319
4	2 Höchstmögliche Wärmeleistung in MW	100	284
5	3 Anzahl der durch öffentliche Fernwärmenetze versorgten Wohnungen	100	412
6	4 Wärmeabgabe in TJ	100	213
7	5 Trassenlänge des öffentlichen Fernwärmenetzes in km	100	222

Key:

1. Characteristic
2. Index
3. Specific connected value in kW/10³ per inhabitant
4. Maximum heating power in MW
5. Number of apartments supplied with district heat
6. Heat supply in TJ
7. Route length of public Heating net in km

Table 2: Utilization of Administrative Urban Area--Supply Area A (Metropolitan Area)

1		2	
Art der Nutzung		Anteil der Nutzungsart in %	
1		2	
3	1 Wohn- und Mischgebiete	13,4	
4	2 Industriegebiete	4,5	
5	3 Zentrum	0,8	
6	4 Städtische Grünfläche	8,9	
7	5 Verkehr	4,9	
8	6 Sonstige Baugebiete	2,2	
9	Zwischensumme	34,7	
10	7 Landwirtschaft	52,6	
11	8 Forstwirtschaft	7,1	
12	9 Wasserflächen	1,3	
13	10 Sonstige Flächen	4,3	
14	Summe	100,0	

Key:

1. Type of utilization
2. Share of type of utilization in percent
3. Residential and mixed areas
4. Industrial areas
5. Areas in town center
6. Urban green areas
7. Traffic
8. Other built-up areas
9. Subtotal
10. Agriculture
11. Forests
12. Water areas
13. Other areas
14. Total

Table 3: Selected Characteristics of Settlement Net

Kenngröße		Versorgungsgebiet C		DDR-Durchschnitt		Bereich der bezirgl. Durchschnitte	
1		2		3		4	
1	Einwohnerdichte in EW/km ²	5	300	154		57 ... 318	
2	Gemeindedichte in Gemeinden/100 km ²	6	6,6	7,0		4,6 ... 13,4	

Key:

1. Characteristic
2. Supply area C
3. GDR average
4. Spread of district averages
5. Population density in inh/km²
6. Community density in communities/100 km²

Table 4: Community Groups and Population Distribution in Supply Area D

					Key:	
1	Gemeindegruppe	2	Anzahl der Gemeinden	Einwohnerverteilung in % DDR 1980 (Vergleich)	3	
		4	Ver- sorgungs- gebiet D	5		
6	1	2	3	4		
7	1 Dörfer (bis 2 000 EW)	13	4,0	23,6	1. Community group	
8	2 Landstädte (2 000 ... 5 000 EW)	7	4,4	11,5	2. Number of communities	
9	3 Kleinstädte (5 000 ... 20 000 EW)	9	21,2	16,3	3. Population distribution in percent	
10	4 Kleine Mittelstädte (20 000 ... 50 000 EW)	4	30,1	14,8	4. Supply area D	
11	5 Große Mittelstädte (50 000 ... 100 000 EW)	1	14,5	7,9	5. Compared to GDR in 1980	
	6 Großstädte (über 100 000 EW)	1	25,8	25,9	6. Villages (up to 2,000 inh.)	
					7. Rural towns (2,000-5,000 inh.)	
					8. Small towns (5,000-20,000 inh.)	
					9. Medium-sized towns (20,000-50,000 inh.)	
					10. Large medium-sized towns (50,000-100,000 inh.)	
					11. Large cities (above 100,000 inh.)	

Table 5: Heat Requirements of Areas under Study in the Year 2020

					Key:	
1	Versorgungsgebiet	2	3	4	5	
	1	Max. Leistungs- bedarf P_{Qmax} in MW	Verhältnis $P_{Qsummer}/P_{Qmax}$	Jahresbenutzungs- dauer der max. Leistung in h/a	Spez. max. Leistungsbe- trag in kW/EW	
1	A	1 910	0,32	4 680	8,3	1. Supply area
2	B	930	0,25	4 160	8,1	2. Maximum power requirement P_{Qmax} in MW
3	C	1 610	0,48	5 810	19,6	3. Ratio $P_{Qsummer}/P_{Qmax}$
4	D	4 720	0,44	5 310	10,5	4. Annual power usage of maximum capacity in h/a
						5. Specific maximum power in kW/inh.

Table 6: Load Density of District Heat in Metropolitan Supply Areas in 2020

				Key:	
1	(1)	(2)	(4)		
	Versorgungsgebiet	(3) Fernwärmelastdichte in MW/km ² Mittelwert des Versorgungsgebietes	Bereich für die einzelnen Strukturgebiete	1. Supply area	2. District heat load density in MW/km ²
1	A	18	0,3...101	3. Average value for supply area	
2	B	37	3...160	4. Spread for the individual structural areas	

Table 7: Degree of District Heat Supply and Centralization of Supply Areas in 1981 through 1983

Key:

	(1)	(2)	(3)
	Versorgungsgebiet	Fernwärmeversorgungsgrad*	Zentralisierungsgrad
	1	in % 2	in % 3
1	A	54 (57)	43
2	B	53	41
3	C	46 (39)	26
4	D	40	8

1. Supply area
2. Degree of district heat supply*in %
3. Degree of centralization in %
4. *=Values in parantheses were determined on basis of equation (8), the others on the basis of equation (7)

(4) * Werte in den Klammern wurden nach Gleichung (8), die übrigen nach Gleichung (7) errechnet.

Table 8: Installed District Heat Generation in the Supply Areas in 2020

Key:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Versorgungsgebiet	Kernheizwerk (KHW) Grundlast (GL)	Anzahl/Blockleistung	Install. Leistung in MW	Konventionelle Anlagen Spitzenlast (SL)	Anzahl	Install. Leistung in MW	Installierte Leistung absolut in MW	spezifisch in kW/EW	
1 A	5 × 200 MW	1 000	4	576	1 576	7,4			
2 B	1 × 200 MW	500	2	345	845	7,3			
3 C	1 × 300 MW								
4 D	4 × 200 MW	800	4	207	1 007	12,3			
	7 × 500 MW	3 500	2	421	3 921	8,7			

1. Supply area
2. Base load of nuclear heating plant
3. Number/block power
4. Installed power in MW
5. Peak load, conventional power plants
6. Number
7. Installed power in MW
8. Installed power
9. Absolute in MW
10. In $\frac{kW}{Inh}$

Table 9: Specific Investment Costs for Nuclear Heating Plant Blocks

Key:

(1)	(2)
Blockleistung in MW	Spezifische Investitionskosten in M/MW Index
1	2
1 100	312
2 200	179
3 300	135
4 500	100

1. Block power in MW
2. Specific investment costs in M/MW

Table 10: Degree of Centralization*in Supply Areas in 2020

(1)		(2)
Versorgungsgebiet		Zentralisierungsgrad in %
1	A	83
2	B	80
3	C	80
4	D	83

(3) * Im Jahr 2020 sind der Zentralisierungsgrad gemäß [Gleichung (7)] und der Fernwärmeanschlußgrad [gemäß Gleichung (8)] identisch.

Key:

1. Supply Area
2. Degree of Centralization in %
3. *=In 2020, the degree of centralization (acc. to equation (7)), and of degree of district heat connections (acc. to equation (9)) are identical

Table 11: Investment Costs of Designed District Heating Systems

Tabelle 11. Investitionskosten der entworfenen Fernwärmesysteme

Investitionskostenstelle		Versorgungsgebiet				
		A	B	C	D	
1		2	3	4	5	
1	Kernheizwerk	10 ⁶ M	3 005	2 089	2 330	9 468
2		%	88,5	71,8	78,7	77,3
3	Spitzenlastwerke	10 ⁶ M	149	627	160	704
4		%	4,4	21,7	5,4	5,8
5	Primär-/	10 ⁶ M	243	187	470	2 070
6	Transitnetz	%	7,1	6,5	15,9	16,9
7	Summe des Fernwärmesystems	10 ⁶ M	3 397	2 883	2 960	12 242
8		%	100,0	100,0	100,0	100,0

Key:

1. Ranking of investment costs
2. Supply area
3. Nuclear heating plant
4. Peak load plants
5. Primary/transit net
6. Total for district heating system

Table 12: Relative Investment Costs of Designed District Heating Systems

Art der spezifischen Investitionskosten		Versorgungsgebiet			
		A	B	C	D
1		2	3	4	5
1	Summe der Investitionskosten, bezogen auf die installierte Erzeugerleistung, in 10 ⁶ M/MW	2,16	3,41	2,94	3,12
2	Summe der Investitionskosten, bezogen auf die substituierte Rohbraunkohle*, in M/t	28,6	40,3	28,0	32,4
3	Investitionskosten für das Primär-/Transitnetz in 10 ⁶ M/km	5,68	6,54	7,97	8,92

* Rohenergie bei einer Nutzungsdauer des Fernwärmesystems von 25 Jahren

Key:

1. Type of costs
2. Supply area
3. Total investment costs, related to installed generated power, in 10⁶ M/MW
4. Total investment costs related to substituted brown coal* in M/t
5. Investment costs for primary/transit net
6. *=Primary energy for a 25-year useful life of the heating system

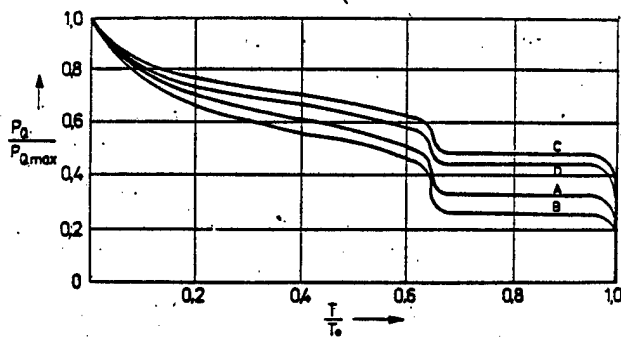


Figure 1: Annual Duration Characteristic of District Heat Power Requirements in the Year 2020 in Supply Areas A-D.

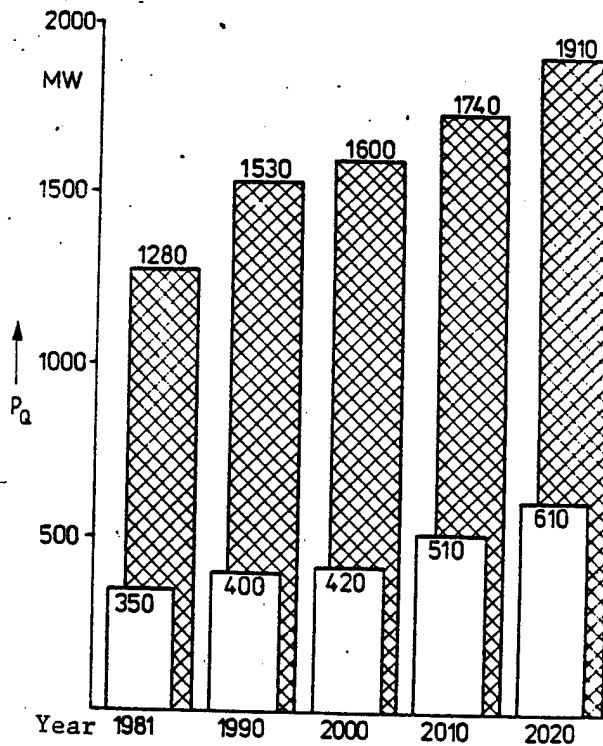


Figure 2: District Heat Power Requirements in Supply Area A from 1981-2020.

Cross-hatched areas: Maximum Power requirements during the winter in MW.

Blank areas: Maximum power requirements during the summer in MW.

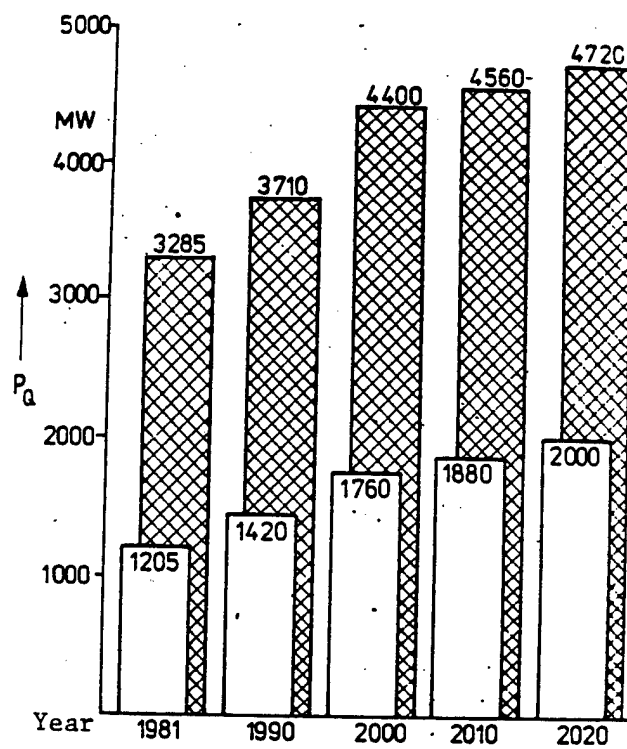


Figure 3: District Heat Power Requirements in Supply Area D from 1981-2020.

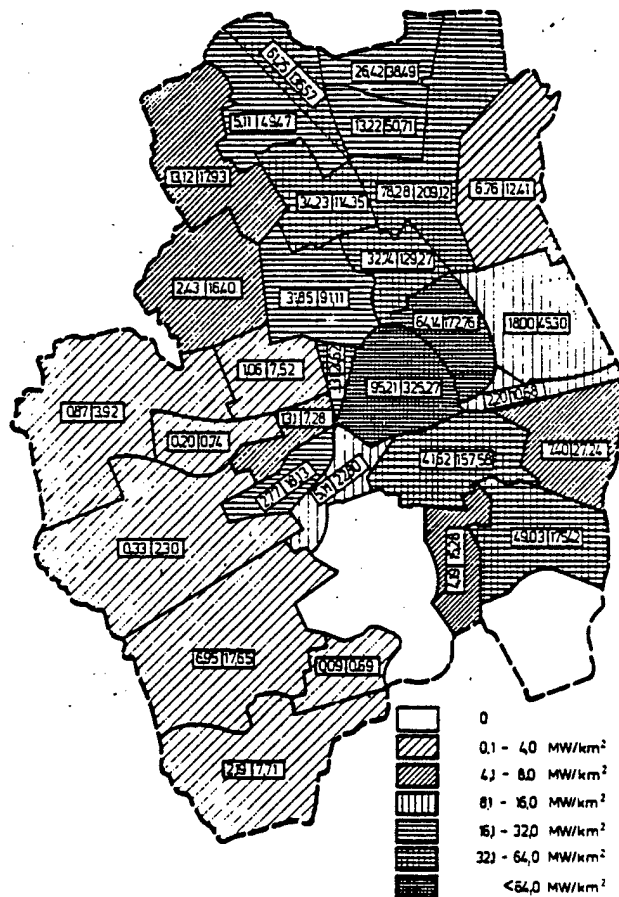
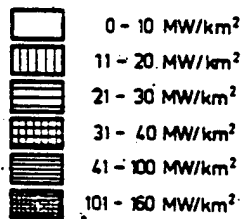


Figure 4: District Heat Load Density in Supply Area A in 2020.
(Box shows power requirements in MW; left summer, right maximum.)

Legend



④ Structural
Number of
Area

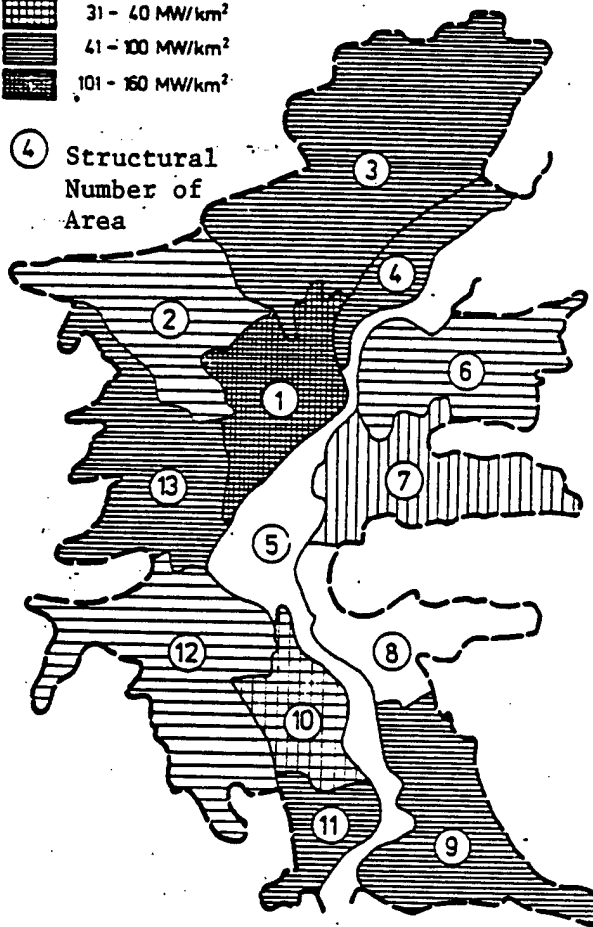


Figure 5: District Heat Load Density in Supply Area B in 2020.

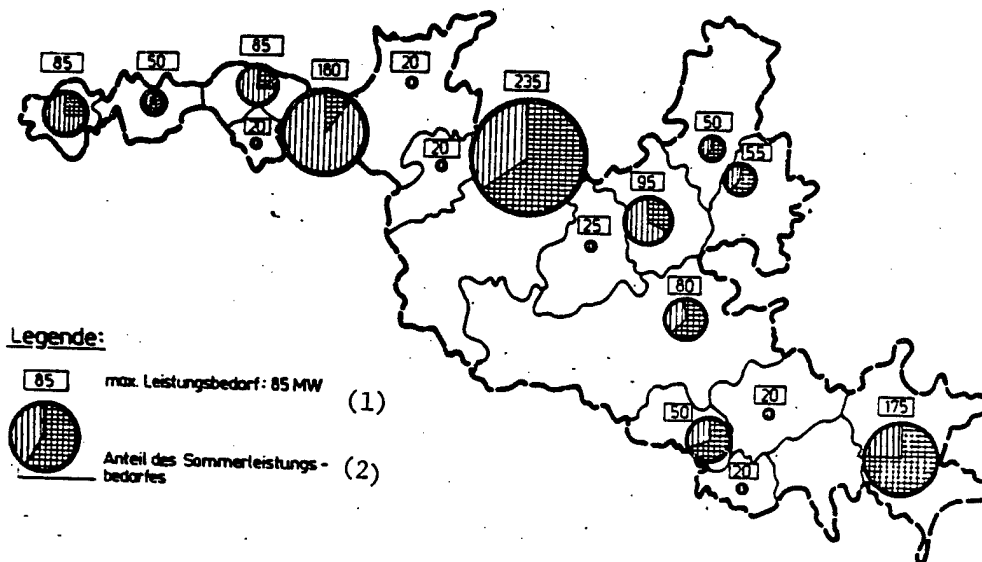


Figure 6: District Heat Load Requirements in Supply Area C in 2020.

- Legend:**
1. Maximum power requirements: 85 MW
 2. Share of summer power requirements

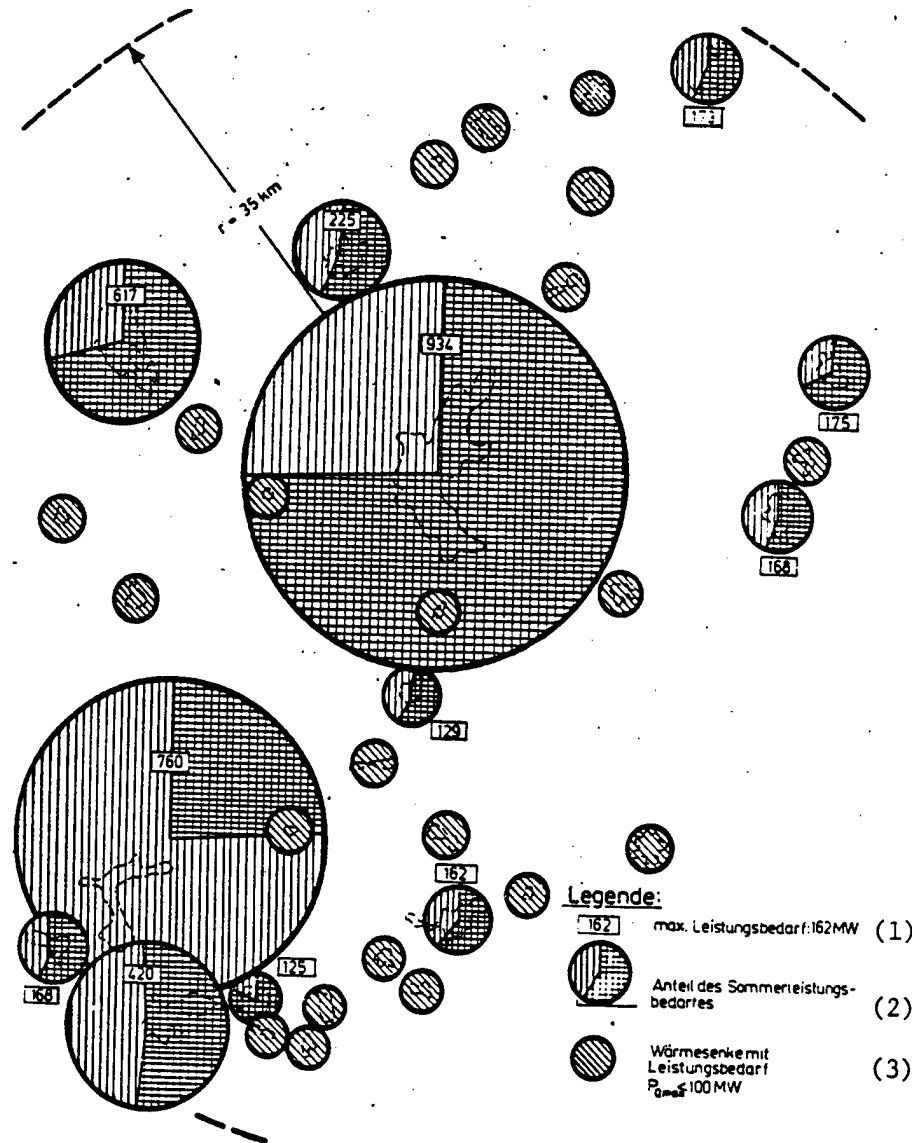


Figure 7: District Heat Load Requirements in Supply Area D in 2020.

Legend:

1. Maximum power requirements: 162 MW
2. Share of summer power requirements
3. Heat sink with power requirements

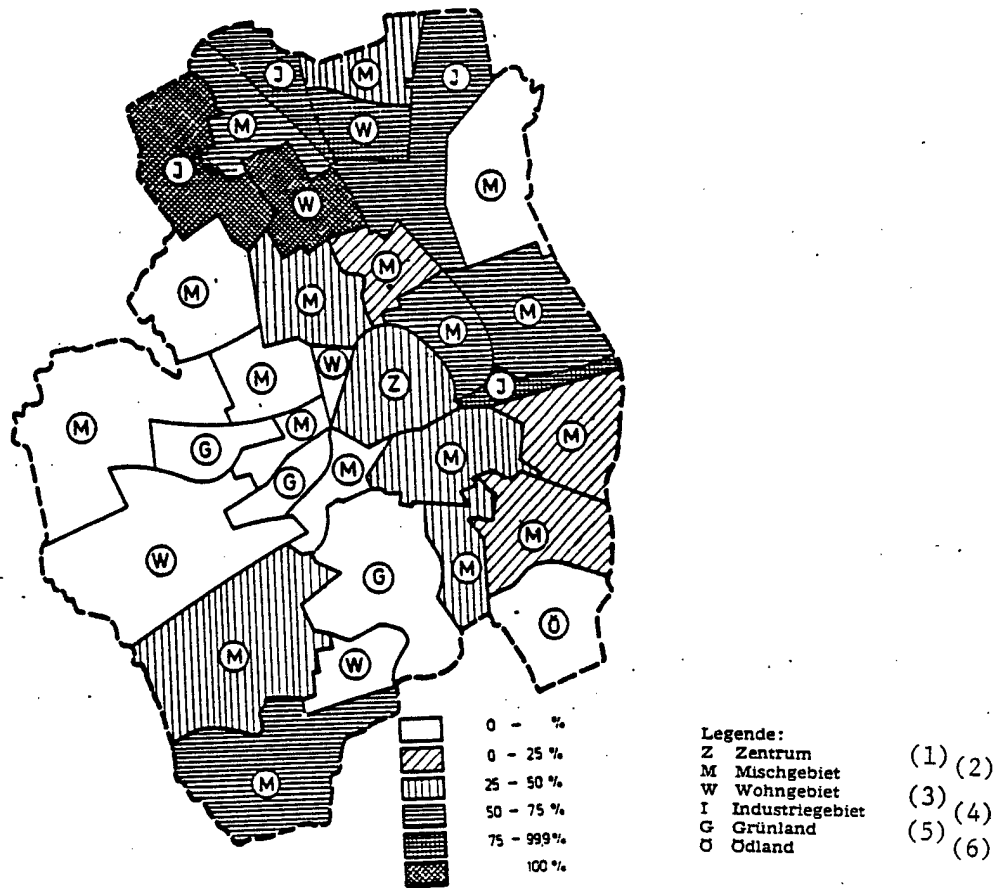


Figure 8: Structural Areas and Centralization of District Heat Supply in Supply Area A in 1981.

- Legend:**
1. Z center area
 2. M mixed area
 3. W residential area
 4. I industrial area
 5. G green spaces
 6. O wasteland

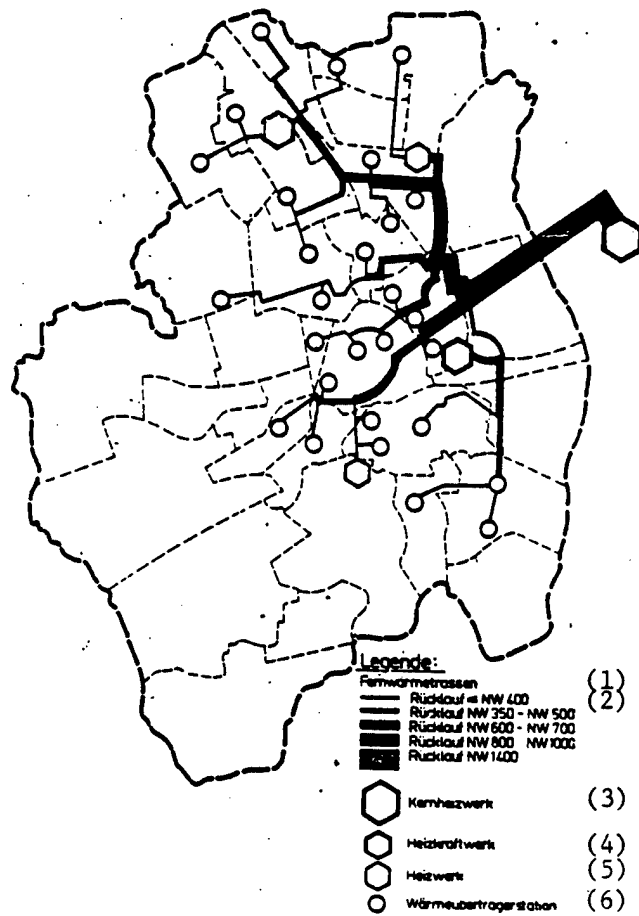


Figure 9: District Heat System in Supply Area A in 2020

Legend:

1. District heat routes
2. Reverse flow
3. Nuclear heating plant
4. Heating power plant
5. Heating plant
6. Heat transmission station

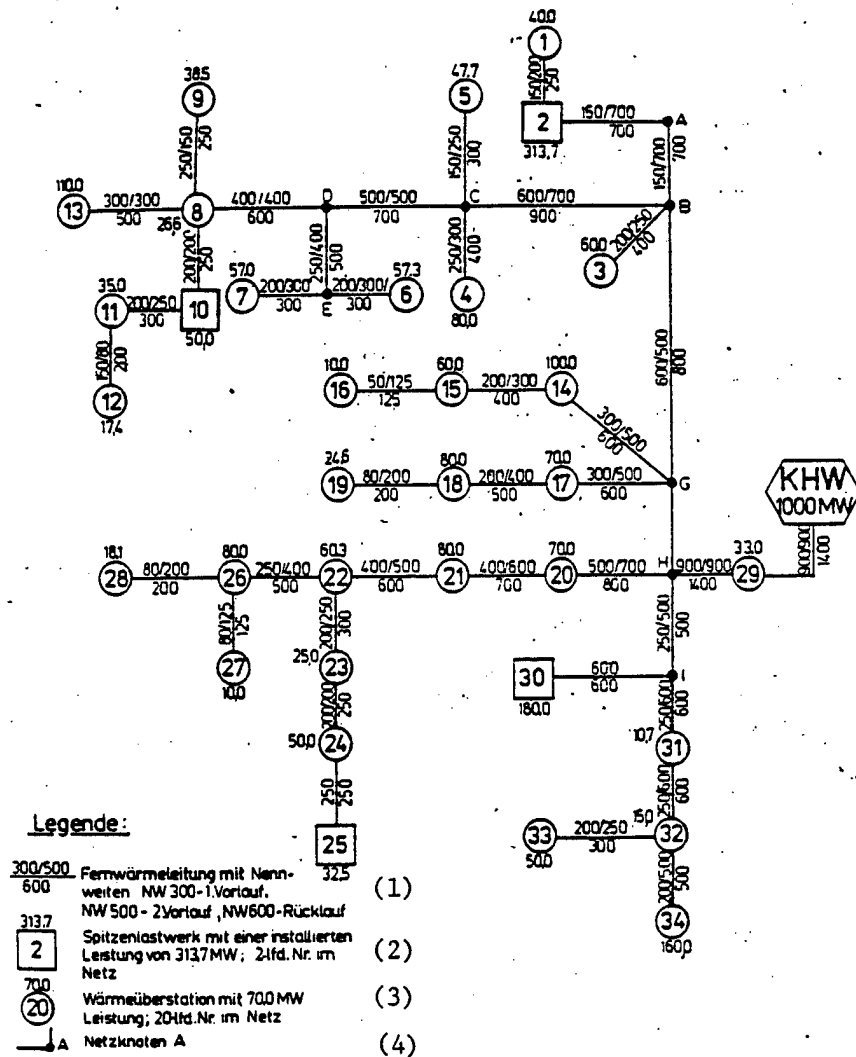


Figure 10: District Heat System of Supply Area A in 2020--schematic.

Legend:

1. District heat line with nominal diameters. Nominal diameter (NW) 300--first forward line; NW 500--second forward line; NW 600--reverse flow.
2. Peak load plant with installed power of 313.7MW; second sequential number in net.
3. Heat transmission station with 70.0 MW power; 20th sequential number in network.
4. Network knots.

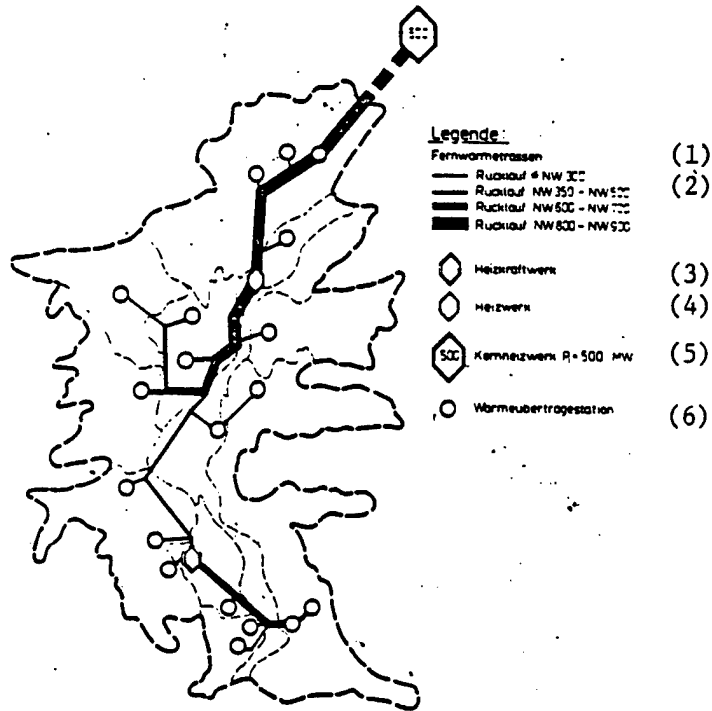


Figure 11: District Heat System of Supply Area B in 2020

- Legend:**
1. District heat routes
 2. Reverse flow
 3. Heating power plant
 4. Heating plant
 5. Nuclear heating plant $P_1 = 500 \text{ MW}$
 6. Heat transmission station.

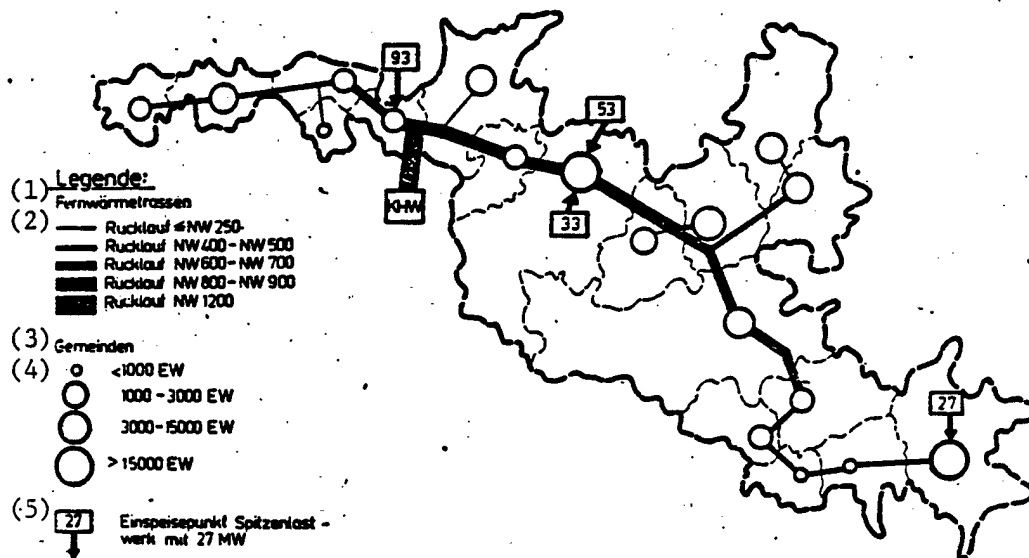


Figure 12: District Heat System in Supply Area C in 2020

Legend:

1. District heat routes
2. Reverse flow
3. Communities
4. Inhabitants (EW)
5. Power supply point for peak load plant with 27 MW.

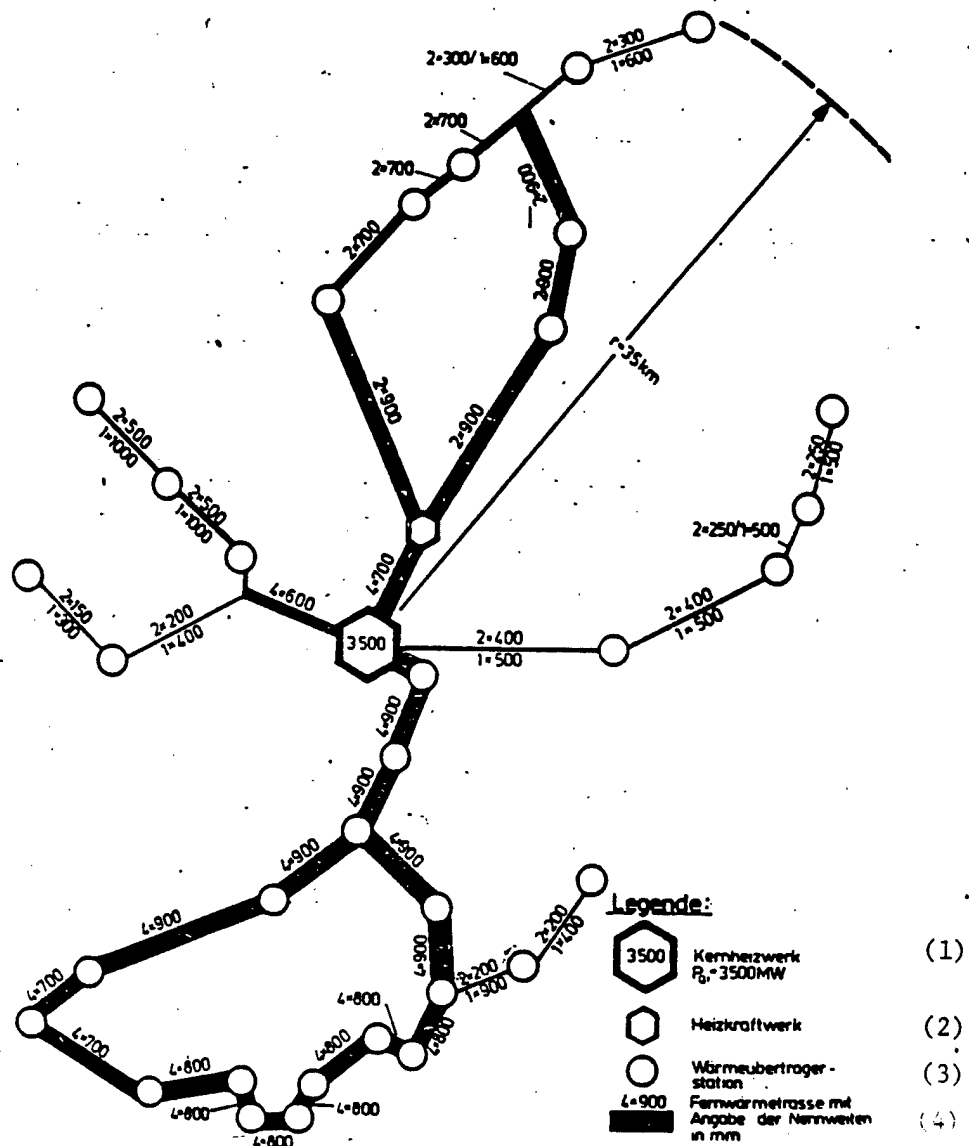


Figure 13: District Heat System of Supply Area D in 2020.

Legend:

1. Nuclear heating plant
2. Heating plant
3. Heat transmission station
4. District heat route with nominal diameter in mm.

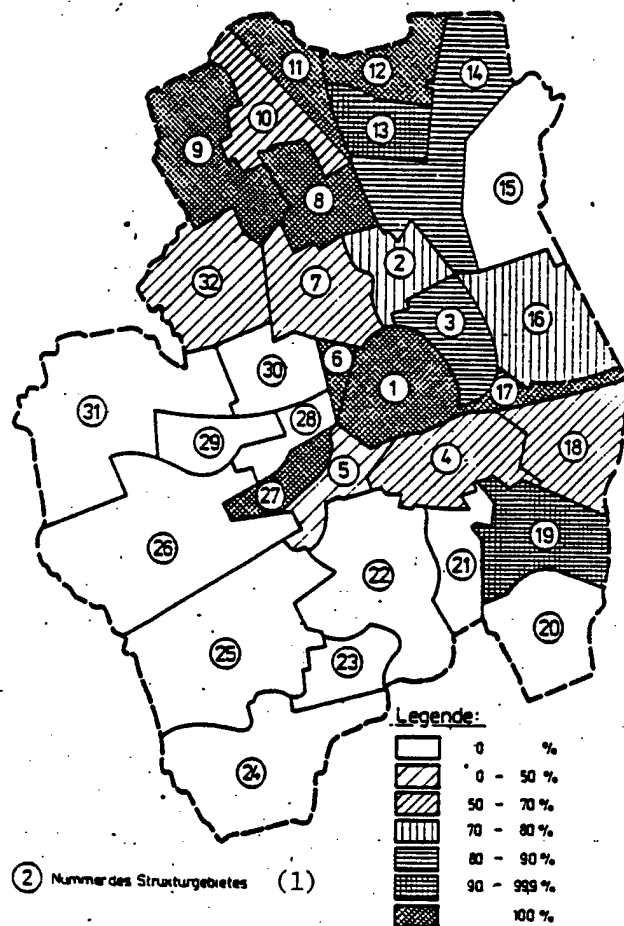


Figure 14: Degree of District Heat Connection in Supply Area A in 2020.

(1) Number of structural area.

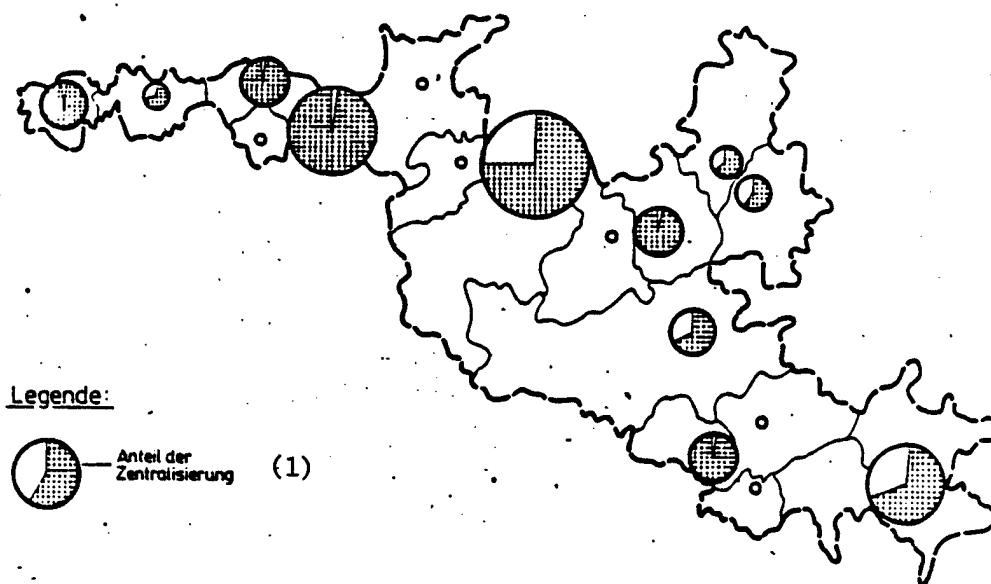


Figure 15: Degree of Centralization of Heat Supply in Supply Area C in 2020

(1) Degree of centralization.

7994

CS0: 2300/544

POLAND

PLANNING COMMISSION TASK FORCE WORKS ON CHANGES IN ECONOMY

Warsaw RZECZPOSPOLITA in Polish 22 Oct 85 p 1

[Excerpts] Work on the program of structural changes to be made in the national economy is in progress. Within the Government's Planning Commission a special task force has been set up to mastermind specific projects to institute these changes.

Basic criteria for the selection of these projects include standards of both quality and modernity, the degree to which these projects promise to satisfy the needs of the domestic and export market, and the possibility of reducing imports, consumption of energy and materials and levels of employment.

Following in-depth analysis and consultations with the relevant ministries a list of 42 projects was drafted with an eye to fostering a more effective socio-economic development of the country. The list includes projects designed as a raw material base for industry, enterprises supplying insulating and construction materials, semi-finished products, and standard components for machinery and equipment as well as investment projects. All of them are expected to step up development of new technologies and new products.

For instance, the production of diesel engines will mean the release of a new generation of cars. The application of electronic components will affect many of the economy (machinery and equipment, machine tools, common appliances). The introduction of a new material--politrioksan--is expected to improve the quality of many products and reduce steel consumption.

The projects are expected to produce effects rapidly. In the case of projects designed as a material and technological base for the national economy and return on capital will take slightly more than three years on average (2.95 exactly), with two projects expected to be refunded within a year of their commissioning day. Ten projects will be refunded within a period of up to two years, and four within three years. The refunding time will exceed 10 years in the case of only one project.

In the case of projects designed to boost the supply of finished products the return-on-capital period will be one year for 7 projects, up to 2 years for 5 projects, and more than 10 years for 3 projects. In this group the average refunding period will be 3.13 years. The average return-on-capital period for all projects to institute structural changes in the national economy is estimated at 3.06 years.

POLAND

NEW ORGANIZATIONAL PATTERN FOR FOREIGN TRADE

Warsaw RZECZPOSPOLITA in Polish Supplement REFORMS GOSPODARCZA No 61, 19 Sep 85 pp 1, 2

[Text] The Council of Ministers, at its 23 August, 1985 session, heard and took note of the document "Organization of Foreign Trade in Conditions of Economic Reform," submitted by the Minister for Economic Reform. The paper gives an assessment of changes introduced in the field so far and sets general guidelines for future development of organizational structures serving the expansion of foreign trade. As such, it provides the interpretation of central policy lines in developing the organizational pattern of foreign trade. Below is a summary of the document.

* * *

The organization of foreign trade in conditions of the economic reform--along with regulations of economic nature--is supposed to provide conditions and encouragement for economic units to develop efficient exchanges with foreign partners, while at the same time making it possible [for the central authorities] to pursue a unified, coherent policy of foreign trade in the interest of the national economy.

With this in mind, it has been found purposeful to diversify the organizational forms of foreign trade in such manner as to enable economic units to act on their own account in contacts with foreign partners, to establish partnerships, or to use the intermediary of specialist foreign trade agencies--with the proviso, resulting from the Constitutional principle of the state's monopoly of foreign trade, that commercial obligations to foreign partners may only be accepted by either enterprises established by the foreign trade minister or corporate bodies and individuals authorized by the foreign trade minister to carry out foreign trade operations.

The purposefulness of extending enterprises' autonomy and powers in the foreign trade field stems from the conviction that their economic performance indicators should be influenced by the efficiency of trade exchanges and that the access to foreign exchange resources should reflect their export activeness. This makes it possible to realize the principle of the unity of foreign-trade powers and responsibilities at the enterprise level.

In step with the growing autonomy of enterprises, the body responsible for the state's monopoly of foreign trade should be strengthened and provided with necessary powers and resources--in order to ensure the coherence of foreign trade policy and the conformity of economic units' operations with the interest of the state. The Foreign Trade Ministry should design and implement foreign trade policy in cooperation with the interested bodies of state administration, which will protect the overriding interests of the economic policy of the state.

Organizational Forms

The new legal organizational regulations are to provide conditions for the development of foreign trade, by bringing producers closer to international markets, by stimulating their interest in export specialization, by making the organizational structures more flexible, and by enhancing the strategic role of the foreign trade minister as the executor of the state's monopoly of foreign trade.

The new model of foreign trade organization provides for three major organizational forms:

1. The state-owned foreign trade enterprises, with the foreign trade minister as the parent body--trading mainly in goods of strategic importance for the national economy;
2. The joint-stock company with the state treasury's capital share--trading mainly in processed and manufactured goods.

Its purpose is to shape a complementary export offer of industry and to organize import of all necessary supplies for the partners' current production. The company helps to combine the efforts of enterprises making the same or similar products.

The highest body of the company is the meeting of partners, which appoints the supervisory board and the board of management. The meeting of partners considers and approves plans and reports on the company's operations, makes decisions on profit distribution, votes on a motion of confidence for the boards, and adopts resolutions on other matters specified in the agreement on the establishment of the company. The state treasury's share should be at least 51 percent of the statutory capital, and its dividends will be spent on the expansion of export production. The state treasury is represented in the company by the foreign trade minister.

The form of joint-stock company brings the foreign trade apparatus closer to industry. In particular, it may become an important tool for influencing export specialization by producers. Under one roof, it combines the knowledge about manufacturers' productive potential and about chances for sales in foreign markets.

If the partners decide so, by making relevant decisions on income distribution, the company may finance joint production ventures aimed at export growth.

At present, there are 26 foreign trade agencies with the status of joint-stock company.

3. Licensed production and service units, authorized to perform independent foreign trade operations after meeting the conditions specified in the relevant Sejm law (dated 26 February, 1982, published in DZIENNIK USTAW No 7, item 59).

The principal condition is that the value of direct exports of goods or services should reach at least 25 percent of the value of production, or exceed Zl 1 billion a year (adjusted for changes in the exchange rate of the zloty). The licenses may be issued to organizations involved in economic activity in Poland, including:

- a. corporate bodies (enterprises, cooperatives, associations, and joint-stock companies);
- b. Polish individuals;
- c. foreign individuals and corporate bodies operating in the small businesses sector.

In the socialized sector, 103 units have been granted licenses so far.

Lines of Long-Term Policy in the Field of Organizational Structures

The direction of changes in the organization of foreign trade conforms with the adopted system of the functioning of the economy. The organizational structures are rendered more flexible, being adjusted to the specific features of trade in particular product groups and to foreign-trade policy lines. The changes are taking place with active participation of producers. But the extent to which the new organizational forms (especially as regards licenses) have been used so far is unsatisfactory.

Further changes in the organizational structures in foreign trade should be made as part of the adjustment of organizational structures in the whole economy to the adopted concept of its development. It is assumed that:

- a. changes in the structure of the economy will consist in shaping new export-specializing production structures, capable of competing with foreign suppliers in terms of prices, product sophistication, and after-sale services;
- b. economic mechanisms in foreign trade will be strengthened, especially as regards the rate of exchange, the [producer-trader] settlements in transaction prices [international prices converted into Zl at the official rate of exchange], stimulation of export efficiency, foreign-exchange self-financing, and financing of development.

The production structures specializing in exports may take various organizational forms, as specified in the document "General Assumptions and Guidelines

for the Shaping of Organizational Structures in the Economy [ER No 7-85 of 22 January, 1985], adopted by the Government presidium at its 17 December, 1984 session.

In selecting organizational forms for the shaping of export-specializing organizational structures, the following aspects should be assessed in particular:

- a. the enterprise's capability of expanding export production on its own;
- b. the extent of co-production links and the need for combining efforts of two or more enterprises for the purpose of creating export-oriented capacities;
- c. interest taken by foreign organizations in creating or expanding the export-production capacity.

Depending on the combination of the above assumptions, the production structures with export specialization may take the following organizational forms:

- a. the enterprise;
- b. the combine (multi-plant enterprise);
- c. the association of enterprises--either mandatory or voluntary;
- d. joint-stock company (mixed enterprises);
- e. company with foreign capital share;
- f. consortium.

The terms on which export-specializing entities are authorized to carry out foreign trade operations, and the related procedures, are specified in the relevant Sejm law. It is expected that the scope of export production and the influence of economic mechanisms in foreign trade will attract interest in applying for licenses on the part of units specializing in export production.

In step with the development of the licensing system, measures should be taken to strengthen the financial basis of joint-stock companies. In particular, the goal is to enhance their capacity to finance trade with their own resources, and to encourage them to commit funds to the expansion of production enterprises' export potential. Such attitudes on the part of companies should be stimulated by the state's tax policy. In step with the growth of exports and increase in the number of exporting producers, a portion of the state treasury shares should be ceded to enterprises developing export production. It is warranted that the state treasury should be represented in joint-stock companies by the minister of foreign trade. In special cases, justified by the economic interest of the country, it may be allowed to establish and run a joint-stock company without a state treasury share. Also in such cases, the treasury may be represented by another body of the state administration (which may act jointly with the foreign trade minister).

It has been found purposeful to continue the process of transforming the state-owned foreign trade enterprises into joint-stock companies. This also holds true for enterprises servicing units authorized to engage in foreign trade (organization of exhibitions, trade fairs, advertisement, etc.). The status of state enterprise should be retained, in principle, by units trading in goods of strategic importance, and by service establishments which, because of the character of their operations, have to be independent from units authorized to trade with foreign partners.

An active part in the shaping of organizational structures in foreign trades should be taken by entities expanding export production. They should be allowed to operate directly in foreign markets, or to freely choose the intermediary from among authorized units. Of great importance here is the delineation of product-range and geographical [limits] for these units. The regulations governing this field, which are not unambiguous, should be reviewed and adjusted. Understandably, they must take into account the determinants and strategy of Poland's foreign trade, but at the same time they must not be subordinated to particularistic interests of either producers or foreign trade agencies. Steps should be taken to improve cooperation among export/import units dealing in the same or similar goods or acting in the same market. Undesired behavior in this field should be countered with the help of the system of export/import permits and--in extreme cases--by means of limiting or withdrawing the licenses.

It is necessary to work out and implement the procedures for arbitrating disputes among enterprises over the export of production-supply articles which are in short supply domestically. This concerns the goods which are distributed by producers under freely concluded contracts with foreign trade agencies or other producers. The goal is not to yield to pressure from enterprises demanding the reduction of such exports, but to resolve the problem in accordance with the interest of the national economy. Decisions on these matters are in the purview of the foreign trade minister.

The role of the Foreign Trade Ministry as a functional body inspiring the development of export-oriented production structures and shaping the organizational pattern of foreign trade should be strengthened. It should increase its supervision over operations of units authorized to carry out foreign trade operations and ensure adequate cooperation among them--so as to bring their operations into line with the interest of the economy.

The increase in the number of entities authorized to engage in foreign trade operations will require that greater attention be devoted to the organization and functioning of sales networks abroad, and the functions and operating modes of Poland's commercial representations in other countries. It would not be appropriate to atomize foreign networks, which should be adjusted to actual structure of trade.

Status of the Polish Chamber of Foreign Trade (PIHZ)

The initiative of PIHZ members on the adjustment of legal acts governing the operation of this organization to the requirements of the economic reform is

warranted. The PIHZ activity is regulated by a Council of State decree, issued in 1949 in the strength of the Constitution of 1947. Hence the need for a new legal act which would take into account the systemic requirements introduced under the economic reform, and especially the principle of the autonomy of economic entities. This principle should be applied in respect to the PIHZ as well. New arrangements should concern such questions as: membership, selection of the authorities, organization's own representatives abroad, the right to present position papers on proposed economic arrangements related to foreign trade, and the right to carry out the chamber's own economic activity, serving export promotion and at the same time permitting the organization to be fully self-financed.

The PIHZ, as a sui generis organization affiliating domestic corporate bodies and individuals interested in the expansion of foreign trade and cooperation, is an association of special importance. It has contacts with foreign entities--e.g., it concludes agreements on cooperation with them--organizes collective exhibitions of Polish exporters abroad, and runs information services. For these reasons, it must be closely connected with the state's economic policy. But on the other hand, the PIHZ also acts as an institution of public confidence in international trade. It authenticates commercial documents, certifies about the existence of force majeure, announces trade customs, administers international arbitration, etc. All this should also be taken into account in the new regulation, preferably at the level of a Sejm law.

Edited by: Jozef Majdek

/9274

CSO: 2020/23

POLAND

BAKA MAINTAINS REFORM TO ENTER NEW STAGE

Warsaw RZECZPOSPOLITA in Polish 9 Oct 85 p 1

[Text] "The economic reform is about to enter a new, qualitatively different stage. Up to now, it has relied mainly on simple reserves, but from now on, as we are facing the difficult tasks of the next five-year plan, the reform's instruments must be closely linked to efficiency," said Minister for Economic Reform Wladyslaw Baka during a news conference at the Government Spokesman's Office yesterday.

Baka briefed reporters on decisions the Council of Ministers made at its latest session. The new regulations are designed to improve the economic instruments to be used in implementing the reform from now on. They include regulations concerning a new technology revenue fund [formed from profits achieved by the commercial application of new products and processes], the system of currency allowances, and an experimental system of rouble allowances for enterprises. In addition to some amendments to the reform rules, which are now only to be supplied with concrete parameters (these will be set either in 1986 Central Annual Plan or in the 1986-90 National Socio-Economic Plan), the Council of Ministers has also endorsed an overall concept of some matters of close interest to enterprises and even citizens such as a tax on overdrawn wage funds (which will replace the often-criticized Labor Redeployment Fund PFAZ), income tax concessions, or the issuing of bonds by companies. These and some other devices will be decided following analyses of the economic performance during the first three quarters.

What are these changes in the reform's instruments designed to bring about? Above all, economic management is to be made more efficient in the face of changing conditions, and company operations are to be subject to tougher financial rules. Besides, the new regulations will boost the role of profit as an economic category which will be the overriding factor of business operations once the reform has been pushed through, and they set up new mechanisms stimulating innovation and the production of export goods--for these two are closely interrelated goals. Finally, the idea behind the new regulations is to furnish more favorable conditions for a restructuring of the national economy beginning at the bottom, that is, to induce companies to gear their investment and modernization endeavors to modern, profitable and much-demanded products. Baka paid special attention to projected more flexible pricing procedures, especially where they concern negotiated prices.

Here are some of the most important questions asked by reporters and Baka's replies:

Question: The economy's performance this year is worse than planned. Isn't this perhaps one consequence of "quashing" the reform by rigid, involved and restrictive regulations as well as by frequent interventions by the central administration in price-setting?

Answer: Erroneous diagnoses may lead to erroneous conclusions. We therefore need to be more cautious in formulating our conclusions, we need more in-depth analyses of the economic performance in the first three quarters, to give shape to some reform instruments. The first half's effects are not fully reliable. For instance, it is remarkable that production growth rates in September were better than in the preceding months, reaching 6-7 percent. Nor do some people appreciate another encouraging development, namely the growing productivity rate, which is now higher than that of 1979. I am not saying the situation is excellent. For this reason, both the legislation and the implementing regulations of the reform we are planning to push through are designed to improve or even substitute some of these instruments. The PFAZ, for instance, is to be replaced by a tax on overdrawn wage funds.

Question: What will be the general rules for companies planning to issue bonds?

Answer: Our proposal is to license public, cooperative as well as private firms, and even individual citizens, to do this, but the Finance Minister is to be authorized to intervene in bond issues depending on the economy's needs.

Question: Isn't the reasonable policy of demonopolizing the economy at variance with moves toward the creation of huge concerns such as, say, the envisaged iron-and-steel community?

Answer: True, there is too much monopoly power in some areas of the national economy. But it is also true that too little has been done to integrate enterprises with a view to speeding up their development. Economic structures are still an open question and are being discussed. We have got to learn a new approach in line with the reform. I don't see anything wrong in an iron-and-steel community which would be created in order to speed up the steel industry's modernization, as long as it is a fully voluntary community, say, one organized like any other industrial association. I am sure that matters raised in this discussion which indicate a danger that the state administration may be barred from influence in some basic economic sectors are very important points.

/9274

CSO: 2020/23

POLAND

FIVE HUNDRED TOP MANUFACTURING ENTERPRISES RANKED

Warsaw ZARZADZANIE in Polish No 6, Jun 85 pp 40-41, 44-61

[Text] Our list of the 500 largest enterprises is already becoming a tradition. This is the third time we are presenting it to our readers.

Each of the three lists (the previous ones included entries from 1983 and the first half of 1984) is a bit different from the others. It turned out this way not only because life causes our economic mechanisms to change and certain indicators of enterprise economic health turn out to be less important and others essential. The other reason is that we learn from our heroes and readers by asking for their opinions. After the first publication we sent questionnaires to each of the 500 directors asking them what they thought about the criteria we adopted to evaluate the enterprises, and we tried, to the extent of our technical capability, to take their suggestions into account.

New column headings dealing with fixed assets appear in the present "500 List." We accepted the argument of those directors and economic observers who pointed out that this would decrease the arbitrariness of the ratings and that it would distinguish those enterprises that were more fortunate in the past decade and had more than their share of modern technology from those that are poor and have to make due with old machinery. In any case, this leads to the more general conclusion that our economy continues to suffer from relativism in terms of how assessments are made to measure how one period's performance stacks up against the performance of a previous period, something which is often unfair (e.g. the notorious bonus points given to growth rates in relation to 1982 rewards those who worked poorly before).

We hope that our list will continue to improve, but then we do not harbor illusions that we will reach perfection. In a socialist economy there is no absolute criterion of success (in capitalism it is money). Social considerations dictate that food prices, for instance, be kept at an artificially low level. International agreements dispose companies to the production of goods whose profitability can be estimated only in comparison to import costs. In a word, the figures never speak for themselves. However we are always open to readers' suggestions as to how we can make an even clearer picture of the Polish economy from our future publications in the series "The Big 500."

General Remarks (Excerpts from GUS documents)

For the third time the Central Office of Statistics [GUS] has presented detailed information on the earnings of 500 selected manufacturing enterprises (excluding those in the power industry) that achieved the highest income from sales, and thus played a major role in determining how the economy as a whole performed. The purpose of the following report on these earnings performance records is to make it possible for interested individuals to observe the changes in the management of these enterprises and the consequences of these changes. As before, the enterprises are ranked according to the value of their sales beginning with the highest ones.

The present version of the "500 selected manufacturing enterprises" covers all the industrial manufacturing enterprises in keeping with the system of economic classification used in the Regon system; also, as in the first half of 1984, three mining enterprises were included, i.e. the Copper Mining and Metallurgical Plant in Lubin, the Sulphur Mines and Processing Plants "Siarkopol" in Tarnobrzeg, and the Sulphur Mines "Siarkopol" in Grzybow. The organizational data given here is current as of 31 Dec 1984.

In comparison with previous studies, the subject headings breakdown has been expanded to cover additional information on net output per employee and fixed assets together with accounts associated with fixed assets. The source material used to compile the data were the financial statements drawn up on the F-01, F-02 and P-30 forms. Multidivision concerns (combines) were also treated as single enterprises.

In column heading three next to the name of the enterprise is the symbol of the industry that the enterprise belongs to according to the statistical number of the Central Office of Statistics. Related branches of an industry can be identified on the basis of the first two numerical symbols given in the attached table. The relative figures (indicators) were calculated on the basis of absolute figures expressed in thousands of zlotys.

Definitions of Basic Concepts

SPRZEDAZ (SALES) includes revenue from sales in terms of final sales prices charged for a firm's own goods, labor, services, patents, licences and other sci-tech achievements, and also the profit margin generated by sales of production from outside sources.

PODATEK OBROTOWY (SALES TAX) can be levied on economic activity performed by enterprises and consisting of: sales of manufactured goods made by them and those manufactured elsewhere, sales of imported goods and services rendered.

DOTACJE (SUBSIDIES) serve as compensation by setting a profitability baseline for goods whose prices, owing to justifiable social or economic reasons, were set at a relatively low level in relation to the production costs of specified goods (itemized subsidies) or specified enterprises taken as a whole (blanket subsidies).

AKUMULACJA Z CALOKSZTALTU DZIALALNOSCI (AGGREGATE NET EARNINGS) represent the difference between the cash revenues generated by sales of goods and services over the cost price of these sales adjusted for the balance of losses and windfall profits. Both positive and negative values can be assigned to this difference.

WYNIK FINANSOWY (NET EARNINGS) constitute the difference between the revenues from sales and the costs of these sales, plus subsidy entitlements, minus sales taxes, and adjusted for compensatory settlement of accounts in foreign trade, offsetting differentials in prices and also the balance of losses and windfall profits. Positive net earnings are profits while negative ones are losses for the enterprise.

PODATEK DOCHODOWY (INCOME TAX) is the tax paid on profit gained.

RENTOWNOSC NETTO (NET PROFITABILITY) is the ratio of net earnings to the enterprise's actual costs of goods and services sold.

PRODUKCJA CZYSTA (NET OUTPUT) constitutes the difference between the aggregate value of all output, which is calculated by adding or subtracting the values assigned to inventories of finished goods, goods in production, and earnings from miscellaneous sales from sales as measured in actual prices, and direct costs adjusted for the payment of interim charges and other adjustments related to the costs of goods sold. Direct costs include the costs of materials and nondurables, energy, transportation and repair service, outside processing, miscellaneous services classified as direct, and depreciation. Components of net output also include indirect costs (wages, personal income taxes, social security insurance, and other payroll expenses, deductions for enterprise and special funds, business trips, bank payments, rent, etc.) and accumulation (sales tax, subsidies, offsetting differentials in domestic and foreign trade and net earnings).

PRODUKCJA NETTO (ADJUSTED NET OUTPUT) is the difference between the value of output sold as measured in final sales prices (minus sales taxes due on these sales, positive compensatory settlements in foreign and domestic trade, and plus itemized subsidies, negative offsetting price differentials and foreign trade clearing settlements) and direct costs adjusted for the payment of interim charges and other adjustments related to the costs of goods sold.

ZATRUDNIENIE W PRZEDSIEBIORSTWACH PRZEMYSLOWYCH (EMPLOYMENT IN INDUSTRIAL ENTERPRISES) refers to persons employed on the basis of established terms of employment, i.e. work contracts, appointments, election or designation, members of organized workers' groups, and also individuals performing alternative military service in an enterprise, individuals in work training, and individuals who are employed abroad working in behalf of domestic industrial enterprises. Apprentices and those involved in temporary labor are not counted as employees. The figures refer to the average number of employees, while figures on part-time workers are converted to count as full-time workers.

WYDAJNOSC (PRODUCTIVITY) stands for the quotient of net output sold over a one-year period divided by the average number of employees.

PRZECIETNE WYNAGRODZENIE MIESIECZNE (AVERAGE MONTHLY WAGE) is a decimal fraction ratio (including also workers compensation, payment of distribution profits and net profit in cooperatives and not including wages for apprentices and publishing work) to the average level of employment divided by twelve.

FUNDUSZ ROZWOJU (DEVELOPMENT FUND) is made up of retained earnings deductions taken for the depreciation of fixed assets, and assets of intangible and legal value. It is earmarked above all for paying off capital investment loans, financing the enterprise's own investments, and the financing of working capital reserves.

FUNDUSZ WLASNY W OBROcie (NET OPERATING FUND) is that portion of the statutory fund allocated to meet working capital needs.

WSKAZNIK POKRYCIA ZAPASOW FUNDUSZAMI WLASNYMI (OPERATING FUND-RESERVES COEFFICIENT) is the ratio of a firm's operating fund to reserves (including interim settlements).

KREDYT OBROTOWY (WORKING CAPITAL LOAN) is a supplementary source for financing working capital requirements given by banks to enterprises whose operating funds are insufficient to meet these needs.

WSKAZNIK POKRYCIA ZAPASOW I NALEZNOSCI KREDYTEM OBROTOWYM (WORKING CAPITAL LOAN-RESERVES AND RECEIVABLES COEFFICIENT) stands for the ratio of working capital loans to reserves (including interim settlements) plus accounts receivable from customers and suppliers.

SRODKI TRWALE (FIXED ASSETS) are means of production and durable goods carrying a purchase price or production cost of zł 30,000 and up and having a service life of more than 1 year.

SRODKI TRWALE PRODUKCYJNE (PRODUCTIVE FIXED ASSETS) include only those objects used in a manufacturing enterprise (plant) involved in direct production activity by the given enterprise (e.g. it does not include residential buildings, vacation/rest homes, factory schools, etc.).

WARTOSC BRUTTO SRODKOW TRWALYCH (GROSS BOOK VALUE OF FIXED ASSETS) is the value equal to their purchasing or manufacturing costs without subtracting their depreciation value (amortization).

The gross book value of fixed assets is given in 1982 prices. This value is comprised of:

- 1) in the case of fixed assets that were put into service before 1 Jan 1983, the value of their replacement cost in 1982 prices. This was determined as a result of the revaluation of the economy's stock of fixed capital assets as measured in accordance with conditions prevailing on 1 Jan 1983.
- 2) in the case of fixed assets put into service after 1 Jan 1983, their value as measured in current purchase prices or production costs. Fixed assets depreciation represents the sum total of annual amortizations claimed from the moment the fixed assets were put into service.

STOPIEN ZUZYCIA SRODKOW TRWALYCH (FIXED ASSETS DEPRECIATION RATE) defines the percentage ratio of depreciated value to the gross book value of fixed assets.

NAME OF INDUSTRY	INDUSTRY SYMBOL
Fuels (except coal)	02
Ferrous Metallurgy	04
Nonferrous Metals	05
Metalworking	06
Machine Building	07/08
Precision Instruments	09
Transportation Vehicles	10
Electrical Engineering and Electronics	11
Chemical	12/13
Building Materials	14
Glass Products	15
Porcelainware	16
Wood Products	17
Paper Products	18
Textile	19/20
Apparel	21
Leather goods	22
Food Products	23-25
Animal Feed	26
Printing	27
Miscellaneous	28

LISTA 500

1		3		4		5		6		7		8		9	
Porzycia sprzedazy		Nazwa przedsiębiorstwa i symbol branży		Sprzedaż		Produkt obrotowy i symbol		Aluminiada z czołostrefą dzielnictwa		Dotacje		Wynik finansowy		Podział dotacyjny	
Rok				18		18		mła zł		mła zł		mła zł		mła zł	
1984		1983													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

19 OGÓŁEM 500"

269377

155610

5344474

75928

116910

565600

1	1	POLMOŚ Warszawa	457205	394831	396453	1	8880
2	2	PETROCHEMIA Płock	244	181579	101433	2	15177
3	3	HUTA ŁAZAROWA Katowice	042	259813	60438	19	19177
4	4	HUTA LUTOWA Katowice	042	114748	709	103	2444
5	5	Komb. G.H. Miedzi Katowice	042	110089	385	22759	9
6	6	Komb. G.H. Miedzi Katowice	042	95832	22359	8	12410
7	7	FSM Bełsk-Buda	102	73133	23430	5	7913
8	8	RAFNERIA Gdansk	102	28556	34413	3	3337
9	9	FSO Warszawa	102	19544	25397	4	8208
10	10	O.P. Przem. Miesn. Kalowice	103	61452	25397	498	6
11	11	URSUS Warszawa	103	54809	9882	89	3988
12	12	Huta BIERUTA Częstochowa	042	47700	530	105	1075
13	13	Huta Miel, Nizielnych Katowice	054	46088	3	1800	102
14	14	HUTA STALOWA WOLA	081	43378	14	2950	52
15	15	O.P. Przem. Miesn. Bydgoszcz	231	36379	533	433	2330
16	16	Huta NOWOTKI Ostrowiec Św.	042	32134	166	315	392
17	17	Z-dy Metalurg. Katowice	053	30509	14	1380	105
18	18	O.P. Przem. Miesn. Warszawa	042	29121	952	765	463
19	19	HUTA WARSZAWA	042	29121	21	3089	21
20	20	BUMAR-LABEY Gliwice	081	29223	21	2955	55
21	21	SIARKOPOL Tarnobrzeg	138	29919	3036	59	3539
22	22	RAFNERIA Czerwone	024	27582	1067	1538	110
23	23	FSC Starachowice	102	27528	2041	6545	115
24	24	SC Lublin	102	26487	4709	7719	11
25	25	Komb. Rolniczy Zabrze	021	25894	7	1789	481
26	26	O.P. Przem. Miesn. Łódź	231	25872	711	1489	477
27	27	ZPS Warszawa	102	25735	794	6539	15
28	28	Z-dy Chemiczne Oświęcim	123	25531	15	868	245
29	29	H. CEBIELSKI Poznań	101	24319	25	1792	103
30	30	O.P. Przem. Miesn. Kolo	231	23290	241	96	430
31	31	Cukrownia Lubelskie Lublin	243	23265	241	96	430
32	32	UNITRA-WZT Warszawa	115	23185	8367	10554	15
33	33	O.P. Przem. Miesn. Olaszyn	231	22953	253	414	367
34	34	O.P. Przem. Miesn. Poznań	231	22441	428	765	462
35	35	WSK Melec	106	22428	812	1869	98
36	36	WILAR Katowice	042	22223	2	2726	61
37	37	ATORY Chorzów	067	21893	6031	8190	10
38	38	AZOTY Kiedzyn	123	21839	11	1526	142
39	39	Z-dy Włók Chm. Gorzów	127	21402	1524	5553	21
40	40	Huta ZAWIERCIE Zawiercie	042	20853	76	1708	115
41	41	Huta KOSCIUSZKO Chorzów	042	20812	76	1754	108
42	42	HUTA BAILDON Katowice	042	20134	115	1754	108
43	43	Z-dy Ch. BŁACHOWNIA Kiedzyn	124	20248	29	1719	29
44	44	Huta FLORIAN Świeżochowice	042	20137	97	2301	58
45	45	ZYG MCO Warszawa	132	19659	1796	6169	17
46	46	WSK Swidnik	106	19646	399	4958	23
47	47	WSK Małach Gdansk	105	19534	1	1416	475
48	48	O.P. Przem. Miesn. Łódź	231	19439	278	487	147
49	49	STOMIL Olaszyn	137	18555	4288	6114	18
50	50	ELANA Warszawa	127	18391	38	3395	37
51	51	NPN WIS Warszawa	104	18253	285	3531	34
52	52	Huta LABEY - Gliwice	042	1824	2	1822	60
53	53	AZOTY Pławny	123	17838	1	734	464
54	54	Z-dy Przem. Tłoniowego Kraków	255	17413	1	812	205
55	55					116	25
56	56					705	
57	57						
58	58						
59	59						
60	60						
61	61						
62	62						
63	63						
64	64						
65	65						
66	66						
67	67						
68	68						
69	69						
70	70						
71	71						
72	72						
73	73						
74	74						
75	75						
76	76						
77	77						
78	78						
79	79						
80	80						
81	81						
82	82						
83	83						
84	84						
85	85						
86	86						
87	87						
88	88						
89	89						
90	90						
91	91						
92	92						
93	93						
94	94						
95	95						
96	96						
97	97						
98	98						
99	99						
100	100						

PRZEMYSŁU PRZETWÓRCZEGO ZA 1984 R.

10			11			12			13			14			15			Procentowy		
Rodzimać noto			Produkcja cysta			Zaplanowane przebiegi			Wydaj. mierzona prod. sprężarki w ciągu roku			Przebiegi wynagrodzone miesięcznie			Kredyty brutto (z 111)			Stożek zysku brutto (z 111)		
%	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
13.43	1927119	1763750	784	19000	4641907	45	45.4	36.9												
18.95	132	400.485	1	8413	30	2018	12	16309	285	16309	48	49	53.8	42.4						
11.31	180	108727	2	8413	30	2018	12	16309	285	16309	48	49	53.8	42.4						
6.13	408	28525	7	32580	2	843	172	28525	129	114071	4	40	43.5	34.0						
6.17	408	20101	6	27184	4	1053	51	22478	5	22478	2	3	57	28.5	32.8					
31.46	44	56580	3	43333	1	1300	51	30471	1	214509	2	30	33.0	15.8						
23.15	98	37251	4	27927	3	865	170	17698	145	70741	6	44	33.4	32.2						
14.76	215	36765	6	1768	333	3917	12	21251	31	26264	26	43	42.8	28.5						
31.41	45	36283	5	22471	7	968	123	17225	194	54740	39	45	55.4	28.7						
0.38	461	-1622	493	9049	26	456	464	18270	118	52920	11	42	58.5	44.2						
14.92	210	15906	9	25133	5	748	240	18270	118	52920	11	42	58.5	44.2						
4.58	420	6401	41	11659	128	545	397	21044	55	67348	7	48	29.7	17.5						
4.32	40	4332	13	3983	127	1224	24	21145	33	21213	40	43	37.7	21.0						
11.25	298	1192	10	24233	6	660	301	20468	50	66187	8	40	52.7	47.7						
4.37	41	45	45	6719	38	713	284	20468	439	66187	8	40	52.7	47.7						
3.16	441	45	45	6719	38	713	284	20468	439	66187	8	40	52.7	47.7						
3.45	435	7687	31	15646	11	511	428	19237	73	71342	5	36	31.0	24.9						
4.66	418	2467	169	5851	13	1525	30	22876	12	71342	5	36	31.0	24.9						
3.20	440	1133	392	5851	13	1525	30	22876	12	71342	5	36	31.0	24.9						
14.30	223	8374	27	8836	29	681	171	15914	320	7501	140	38	30.0	0.0						
19.52	142	9173	22	10950	18	1050	102	22101	20	33044	21	57	46.7	35.7						
25.71	82	9808	19	10662	19	1264	52	20939	48	49172	12	42	32.6	23.5						
8.36	343	12967	11	1271	369	1537	20	16419	276	16419	58	39	38.9	25.9						
21.65	111	12564	13	15970	10	630	320	15329	368	29155	178	48	37.0	24.8						
16.01	186	11570	14	9832	60	680	283	16313	283	18796	51	54	38.8	26.1						
13.43	236	11120	395	4695	82	1407	41	21511	24	14647	68	68	20.8	0.0						
2.58	448	850	423	7164	43	396	487	14748	446	10631	95	39	38.9	25.9						
30.36	291	5247	15	7828	35	1186	71	16312	284	18747	52	43	37.0	23.8						
10.74	239	9247	55	9204	23	744	242	17181	196	46919	114	47	37.0	23.8						
8.53	43	7616	40	744	244	18465	103	37668	18	5133	31	47	30.7	33.4						
14.95	208	8836	21	15105	12	890	162	17704	157	23840	18	53	31.5	32.9						
5.14	407	1387	309	4518	96	202	500	14987	425	7737	131	50	37.0	13.3						
4.42	423	1897	135	6570	55	690	282	18978	82	26028	114	40	74.1	72.0						
17.17	179	12367	13	9444	34	842	184	15325	389	51233	211	47	30.7	33.4						
8.20	345	1790	277	3659	144	181	183	15945	317	9439	30	33	44.1	0.0						
3.77	433	625	447	4220	114	159	41	15160	408	3675	300	51	26.4	4.7						
12.75	249	9158	23	17209	9	524	417	18576	95	20352	46	47	37.1	35.2						
9.50	339	6395	39	7394	42	713	218	23055	119	22850	55	68	46.5	31.5						
8.29	320	6648	64	5498	62	803	207	17688	117	8786	114	43	42.9	28.9						
26.95	320	7818	34	1077	95	20745	44	20913	54	20913	54	31	69.2	53.7						
8.29	320	3438	112	3758	138	829	192	17128	200	17600	113	31	24.3	7.9						
18.29	320	5201	57	4265	109	1143	77	23078	8	14444	68	48	31.4	26.6						
32.66	38	11007	16	10988	17	632	190	16476	264	7665	132	75	40	0.0						
44	48	9391	20	9818	21	960	128	20245	54	12912	75	50	25.8	0.0						
11.16	271	12166	11	12337	34	1000	115	22468	28	8798	28	41	69.2	53.7						
4.20	423	1127	364	4492	98	419	481	15532	328	8798	113	31	24.3	7.9						
14.80	214	8022	29	4330	104	645	180	17900	144	14444	68	48	31.4	26.6						
22.41	103	6772	98	6805	45	964	124	17083	203	40687	16	39	42.7	32.3						
27.90	281	9156	24	11949	46	832	189	16699	237	33325	33	48	56.3	52.1						
11.18	281	3659	94	3714	213	1310	50	23402	6	9353	107	51	24.4	16.4						
7.17	477	5410	71	5410	71	2910	231	16313	283	43590	15	51	40.2	39.7						
4.79	375	2823	154	3350	162	794	21	16313	283	43590	15	51	40.2	39.7						

46 APR 22 1964

Rok	1984	1985	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

Nazwa przedsiębiorstwa i symbol branży		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35	
Rok		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
82	108	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123																																																																																																																																																																																																																																																																																																																																																																																																																													

Rok	Pojęcia 1		Rok	Pojęcia 2		Rok	Pojęcia 3		Rok	Pojęcia 4		Rok	Pojęcia 5		Rok	Pojęcia 6		Rok	Pojęcia 7		Rok	Pojęcia 8		Rok	Pojęcia 9		Rok	Pojęcia 10		Rok	Pojęcia 11		Rok	Pojęcia 12		Rok	Pojęcia 13		Rok	Pojęcia 14		Rok	Pojęcia 15		Rok	Pojęcia 16		Rok	Pojęcia 17		Rok	Pojęcia 18		Rok	Pojęcia 19		Rok	Pojęcia 20		Rok	Pojęcia 21		Rok	Pojęcia 22		Rok	Pojęcia 23		Rok	Pojęcia 24		Rok	Pojęcia 25		Rok	Pojęcia 26		Rok	Pojęcia 27		Rok	Pojęcia 28		Rok	Pojęcia 29		Rok	Pojęcia 30		Rok	Pojęcia 31		Rok	Pojęcia 32		Rok	Pojęcia 33		Rok	Pojęcia 34		Rok	Pojęcia 35		Rok	Pojęcia 36		Rok	Pojęcia 37		Rok	Pojęcia 38		Rok	Pojęcia 39		Rok	Pojęcia 40		Rok	Pojęcia 41		Rok	Pojęcia 42		Rok	Pojęcia 43		Rok	Pojęcia 44		Rok	Pojęcia 45		Rok	Pojęcia 46		Rok	Pojęcia 47		Rok	Pojęcia 48		Rok	Pojęcia 49		Rok	Pojęcia 50		Rok	Pojęcia 51		Rok	Pojęcia 52		Rok	Pojęcia 53		Rok	Pojęcia 54		Rok	Pojęcia 55		Rok	Pojęcia 56		Rok	Pojęcia 57		Rok	Pojęcia 58		Rok	Pojęcia 59		Rok	Pojęcia 60		Rok	Pojęcia 61		Rok	Pojęcia 62		Rok	Pojęcia 63		Rok	Pojęcia 64		Rok	Pojęcia 65		Rok	Pojęcia 66		Rok	Pojęcia 67		Rok	Pojęcia 68		Rok	Pojęcia 69		Rok	Pojęcia 70		Rok	Pojęcia 71		Rok	Pojęcia 72		Rok	Pojęcia 73		Rok	Pojęcia 74		Rok	Pojęcia 75		Rok	Pojęcia 76		Rok	Pojęcia 77		Rok	Pojęcia 78		Rok	Pojęcia 79		Rok	Pojęcia 80		Rok	Pojęcia 81		Rok	Pojęcia 82		Rok	Pojęcia 83		Rok	Pojęcia 84		Rok	Pojęcia 85		Rok	Pojęcia 86		Rok	Pojęcia 87		Rok	Pojęcia 88		Rok
-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	-----------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----	------------	--	-----

1	2	3	4	5	6	7	8	9	10		11		12		13		14	15		16	17				
									Produkcja netto	poz.	min zł	max zł	Produkcja czysta	poz.	min zł	max zł		Zatrudnienie przeciętne	poz.			min zł	max zł	Wydaj. produkcyjna w ciągu roku	poz.
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
221	257	BACUTIL Poznań	6027	-	-	512	450	729	138	333	437	-142	471	747	456	754	236	14819	454	1822	442	38	558	535	
222	218	WPPAS Kielce	6022	141	-	629	457	915	55	756	379	-168	471	1375	379	1715	21	14701	449	1814	444	37	155	29	
223	218	FRUCTOPOL Lublin	5987	1831	-	2118	81	81	54	756	379	2967	129	1978	314	710	267	15103	415	3112	341	40	71.7	68.0	
224	264	PRESOL-PRESOL Nowosad	5984	342	-	1089	286	8	-	15.41	201	1937	249	2032	303	797	209	17734	154	2375	397	34	26.4	10.9	
225	258	POLIFAB Wrocław	5971	325	-	698	286	8	-	8.61	334	1210	370	837	442	1140	79	19106	77	2196	410	34	61.3	19.1	
226	229	Ok. Z-d Gaz Zabrze	5920	1	1	1231	171	-	738	26.31	79	2864	147	3029	188	874	165	18354	108	33724	20	47	28	0.0	
227	247	POLBA Łódź	5974	496	-	1298	163	-	543	17.46	174	2359	187	2703	220	897	275	18285	115	7872	128	61	43.1	27.6	
228	278	POLBA Kuno	5974	-	-	1202	175	-	751	25.70	83	1875	282	1633	354	1114	85	18335	262	2917	361	21	48.5	34.3	
229	260	F-ka Wagonów Świdnica	5970	1	1	199	438	-	294	11.09	294	464	459	237	349	174	211	18374	14	2917	361	21	48.5	34.3	
230	205	Z-Chem. Nowosad	5966	3	3	-758	461	21	206	8.11	349	978	405	2857	230	630	191	15958	316	18212	50	33	13.2	10.6	
231	218	PREDOM-ZELMER Rzeszów	5962	737	-	919	234	-	267	12.32	257	2381	179	4301	107	164	156	15973	398	3657	282	49	47.2	47.4	
232	264	Ki. Z-d Wodzisław Śląski	5949	40	-	363	363	293	368	11.92	265	1897	122	2104	280	405	156	15574	347	3657	282	49	47.2	47.4	
233	240	STOMIL Bydgoszcz	5948	40	-	363	363	293	368	11.92	265	1897	122	2104	280	405	156	15574	347	3657	282	49	47.2	47.4	
234	223	Z-dy Powiatowe Brzesko-Okocim	5941	3027	-	3447	36	-	491	20.62	124	4027	84	1450	368	754	216	16939	312	3249	346	49	55.4	43.7	
235	249	ZPB HARMAMA Łódź	5789	823	-	1468	147	-	545	12.80	253	2341	191	2556	244	493	434	16432	289	3333	325	55	46.4	36.0	
236	224	EMAPATOR Tona	5768	-	1031	204	-	-	100	15	102	1919	254	2357	170	822	198	14589	456	2278	405	46	48.9	39.0	
237	251	Z-P. Inerskiego Żyrardów	5763	48	-	547	322	-	499	331	131	1950	246	3578	150	497	435	16538	259	7523	138	48	46.3	40.9	
238	221	STOMIL Poznań	5759	483	-	834	352	-	349	41	218	1916	255	2369	268	589	352	18181	124	5785	188	44	52.1	53.4	
239	226	Pon. Z-dy Drob. Koziegłowy	5757	-	-	456	352	277	732	238	339	13.81	231	1053	355	1419	372	18390	278	3760	291	27	59.8	40.7	
240	232	BACUTIL Kalisz	5755	-	-	580	454	853	263	447	159	-254	478	633	463	964	126	14768	444	1818	443	34	47.2	14.7	
241	253	AGROMET Srebrna Op	5753	119	-	1061	188	-	942	170	188	1878	261	2060	299	888	156	15861	326	4806	227	45	47.3	31.1	
242	255	ERA Warszawa	5745	118	-	1394	154	-	1380	105	351	2615	157	2941	196	869	168	17697	159	2744	371	45	31.1	26.2	
243	253	UNITRA-RADWAR Warszawa	5741	30	-	1462	148	-	1438	103	363	3536	104	5103	82	638	315	16900	232	4655	237	38	53.5	41.7	
244	259	DOZAMET Nowa Sol	5696	24	-	1137	187	-	1156	127	86	2609	159	3758	138	722	225	17798	150	4682	234	49	62.9	14.3	
245	213	Z-dy. Kalisz	5689	-	-	490	343	2	491	338	315	828	425	826	445	1088	92	16876	253	1163	478	54	76.0	30.2	
246	228	Lub. Z-dy Drob. Lublin	5685	-	251	406	-	126	376	400	351	772	433	1297	385	1285	54	15089	420	1897	440	41	67.0	62.8	
247	232	W.P. Lublin	5684	183	-	177	439	455	200	467	351	772	433	1297	385	1285	54	15089	420	1897	440	41	67.0	62.8	
248	221	W.P. Przemyśl. Miejs. Jarosław	5684	183	-	177	439	455	200	467	351	772	433	1297	385	1285	54	15089	420	1897	440	41	67.0	62.8	
249	225	Z-Bielski-Reh. Siednica	5613	770	-	1519	143	-	866	185	847	1337	248	1372	381	861	127	15114	412	1176	476	64	23.5	15.9	
250	303	ZPC WAWEL Kraków	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
251	214	KONSTAL Chorzów	5695	-	-	966	166	-	966	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	
252	314	ERG Tychy	5593	594	-	262	398	-	263	446	411	956	407	1577	355	595	356	18619	93	2300	402	60	33.6	23.8	
253	342	Z-dy Metalurg SILESIA	5593	19	-	262	398	-	263	446	411	956	407	1577	355	595	356	18619	93	2300	402	60	33.6	23.8	
254	274	Z-dy. Sodowa Janikowo	5586	-	-	733	278	-	1548	95	65	1636	304	1973	316	1235	62	15635	327	10749	94	50	30.3	15.2	
255	250	Si. Z-dy Lin i Drutów Zabrze	5523	4	-	875	243	-	931	175	-	1646	31	1982	313	881	161	16338	238	4614	241	62	43.5	40.2	
256	244	Hula i MAJA Gliwice	5493	-	535	328	-	-	559	304	298	1130	279	2292	275	695	278	20772	42	3786	285	63	387	27.9	
257	272	Z-dy New Foralowych Gajank	5482	-	-	761	270	-	793	215	-	1323	352	780	450	1869	18	17659	163	6462	165	46	24.7	16.7	
258	279	Hula ZABRZE	5479	-	-	1230	172	-	1236	117	662	2899	63	3176	174	777	219	19795	83	5706	194	59	50.0	42.1	
259	276	Kiel. Z-dy Drob. Kiełce	5478	-	-	667	291	140	802	210	454	1675	184	1145	378	1081	93	15593	355	5693	195	20	37.8	33.2	
260	363	Z.P.C. OPOLNO Opoczno	5473	1534	-	2396	67	-	862	193	547	3647	97	3048	185	657	304	16365	278	5693	195	20	37.8	33.2	
261	320	PZT Wrocław	5469	-	-	2707	494	3470	763	227	461	-2046	499	1386	378	2227	8	15922	319	4976	221	46	78.3	69.5	
262	339	S.Z. Koncentr. Spoz. Skawna	5451	8	-	375	379	-	131	499	332	805	429	1223	392	784	217	14835	435	2122	420	55	37.8	57.1	
263	268	PZT Brzeg	5442	-	-	2684	493	3765	1081	133	685	1333	241	-2028	498	3116	3	17652	164	4035	271	55	64.9	77.6	
264	242	Z-dy. Ciel. Papiern. Opatów	5423	3	-	686	287	-	744	233	336	1605	97	2571	241	637	316	15900	260	5136	166	59	0.0	15.0	
265	291	Z-dy. Piern. Stoz. Warszawa	5372	-	-	1714	113	54	630	201	568	2297	99	3043	125	3139	176	16266	250	2426	396	28	44.4	38.8	
266	222	STOMIL Senok	5358	102	491	342	-	-	474	348	263	974	308	4821	87	428	478	14787	442	10474	86	31	29.8	29.7	
267	282	POLIFAB Jarosław	5356	-	-	1817	41	-	3188	25	2170	14850	1	3777	92	1688	343								

16 17

13

18

LISTA 500

Nazwa		Symbol		18		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100		101		102		103		104		105		106		107		108		109		110		111		112		113		114		115		116		117		118		119		120		121		122		123		124		125		126		127		128		129		130		131		132		133		134		135		136		137		138		139		140		141		142		143		144		145		146		147		148		149		150		151		152		153		154		155		156		157		158		159		160		161		162		163		164		165		166		167		168		169		170		171		172		173		174		175		176		177		178		179		180		181		182		183		184		185		186		187		188		189		190		191		192		193		194		195		196		197		198		199		200		201		202		203		204		205		206		207		208		209		210		211		212		213		214		215		216		217		218		219		220		221		222		223		224		225		226		227		228		229		230		231		232		233		234		235		236		237		238		239		240		241		242		243		244		245		246		247		248		249		250		251		252		253		254		255		256		257		258		259		260		261		262		263		264		265		266		267		268		269		270		271		272		273		274		275		276		277		278		279		280		281		282		283		284		285		286		287		288		289		290		291		292		293		294		295		296		297		298		299		300		301		302		303		304		305		306		307		308		309		310		311		312		313		314		315		316		317		318		319		320		321		322		323		324		325		326		327		328		329		330		331		332		333		334		335		336		337		338		339		340		341		342		343		344		345		346		347		348		349		350		351		352		353		354		355		356		357		358		359		360		361		362		363		364		365		366		367		368		369		370		371		372		373		374		375		376		377		378		379		380		381		382		383		384		385		386		387		388		389		390		391		392		393		394		395		396		397		398		399		400		401		402		403		404		405		406		407		408		409		410		411		412		413		414		415		416		417		418		419		420		421		422		423		424		425		426		427		428		429		430		431		432		433		434		435		436		437		438		439		440		441		442		443		444		445		446		447		448		449		450		451		452		453		454		455		456		457		458		459		460		461		462		463		464		465		466		467		468		469		470		471		472		473		474		475		476		477		478		479		480		481		482		483		484		485		486		487		488		489		490		491		492		493		494		495		496		497		498		499		500		501		502		503		504		505		506		507		508		509		510		511		512		513		514		515		516		517		518		519		520		521		522		523		524		525		526		527		528		529		530		531		532		533		534		535		536		537		538		539		540		541		542		543		544		545		546		547		548		549		550		551		552		553		554		555		556		557		558		559		560		561		562		563		564		565		566		567		568		569		570		571		572		573		574		575		576		577		578		579		580		581		582		583		584		585		586		587		588		589		590		591		592		593		594		595		596		597		598		599		600		601		602		603		604		605		606		607		608		609		610		611		612		613		614		615		616		617		618		619		620		621		622		623		624		625		626		627		628		629		630		631		632		633		634		635		636		637		638		639		640		641		642		643		644		645		646		647		648		649		650		651		652		653		654		655		656		657		658		659		660		661		662		663		664		665		666		667		668		669		670		671		672		673		674		675		676		677		678		679		680		681		682		683		684		685		686		687		688		689		690		691		692		693		694		695		696		697		698		699		700		701		702		703		704		705		706		707		708		709		710		711		712		713		714		715		716		717		718		719		720		721		722		723		724		725		726		727		728		729		730		731		732		733		734		735		736		737		738		739		740		741		742		743		744		745		746		747		748		749		750		751		752		753		754		755		756		757		758		759		760		761		762		763		764		765		766		767		768		769		770		771		772		773		774		775		776		777		778		779		780		781		782		783		784		785		786		787		788		789		790		791		792		793		794		795		796		797		798		799		800		801		802		803		804		805		806		807		808		809		810		811		812		813		814		815		816		817		818		819		820		821		822		823		824		825		826		827		828		829		830		831		832		833		834		835		836		837		838		839		840		841		842		843		844		845		846		847		848		849		850		851		852		853		854		855		856		857		858		859		860		861		862		863		864		865		866		867		868		869		870		871		872		873		874		875		876		877		878		879		880		881		882		883		884		885		886		887		888		889		890		891		892		893		894		895		896		897		898		899		900		901		902		903		904		905		906		907		908		909		910		911		912		913		914		915		916		917		918		919		920		921		922		923		924		925		926		927		928		929		930		931		932		933		934		935		936		937		938		939		940		941		942		943		944		945		946		947		948		949		950		951		952		953		954		955		956		957		958		959		960		961		962		963		964		965		966		967		968		969		970		971		972		973		974		975		976		977		978		979		980		981		982		983		984		985		986		987		988		989		990		991		992		993		994		995		996		997		998		999		1000		1001		1002		1003		1004		1005		1006		1007		1008		1009		1010		1011		1012		1013		1014		1015		1016		1017		1018		1019		1020		1021		1022		1023		1024		1025		1026		1027		1028		1029		1030		1031		1032		1033		1034		1035		1036		1037		1038		1039		1040		1041		1042		1043		1044		1045		1046		1047		1048		1049		1050		1051		1052		1053		1054		1055		1056		1057		1058		1059		1060		1061		1062		1063		1064		1065		1066		1067		1068		1069		1070		1071		1072		1073		1074		1075		1076		1077		1078		1079		1080		1081		1082		1083		1084		1085		1086		1087		1088		1089		1090		1091		1092		1093		1094		1095		1096		1097		1098		1099		1100		1101		1102		1103		1104		1105		1106		1107		1108		1109		1110		1111		1112		1113		1114		1115		1116		1117		1118		1119		1120		1121		1122		1123		1124	
-------	--	--------	--	----	--	---	--	---	--	---	--	---	--	---	--	---	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

331	300	ZP Jedw. WISTUL Kielc	4635	1615	99	99	235	472	127							
332	333	W.P. Przem. Masz. Radom	4823	96	481	448	600									
333	375	Z-d. Armatury Kraków	4823	197	971	220	756	213	465							
334	401	Z-d. Armatury Kraków	4818	586	1285	164	60	758	239	383						
335	289	POLKAT Warszawa	4810	263	2116	82		1854	58	831						
336	381	Z-dy. Przem. Bawel. Bogalynia	4809	502	225	405	478	232	474	118						
337	337	Z-dy. Przem. Nysa	4809	1	1004	202	1034	144	604							
338	330	HAJDUKI Chorzów	4808	228	433	358	204	481	104	104						
339	340	ZIK-TECHPOL Łódź	4808	831	947	168	947	168	535	346						
340	315	Z-dy. Płukarskie Zabrze	4808	2638	3037	48	481	357								
341	324	Z-dy. Przem. Techn. Zyrardów	4576	36	724	280		723	240	509						
342	325	Fabryka Papiernicze Szczecin	4574	412	768	286		373	402	210						
343	368	POLFA Papiernicze	4568		1520	83		1520	83	1035						
344	369	POLFA Papiernicze	4568		1520	83		1520	83	1035						
345	321	BACUTIL Wrocław	4568		1520	83		1520	83	1035						
346	351	Z-dy. Przem. Masz. Łódź	4555	2531	2914	57		435	380	238						
347	417	Z-dy. Przem. Masz. Łódź	4552	458	351	68		68	243	221						
348	290	FALZ AGROMET Poznań	4541	81	763	269		68	243	221						
349	303	ZPD. MEWA Białystok	4534	1375	1646	122		1574	91	108						
350	310	POLFA Warszawa	4529		1574	122		1574	91	108						
351	349	ZP Jedw. PIERSZKA Łódź	4517	1106	1628	123		522	322	284						
352	307	ZP Jedw. PIERSZKA Łódź	4517	1106	1628	123		522	322	284						
353	329	EMIT Eychin	4503		193	415		332	421	76						
354	328	ZP Jedw. MIRANDA Turku	4485	926	1224	173		985	157	688						
355	336	Z. Przem. Sztosz Sierogard Gd	4468	346	973	719	54	582	253	434						
356	301	EDA Poniatowa	4444	107	586	313		478	346	338						
357	19	PRUMET Wodzisław	4438	15	458	273		618	207	578						
358	261	AGROMET Wodzisław	4438	15	458	273		618	207	578						
359	265	ORGANICOT Jaworzna	4428	124	336	442		604	588	284						
360	257	AGROMET Białystok	4425	2772	2978	53		208	480	84						
361	347	ZPB ESKIMO Łódź	4425	512	953	226		441	370	107						
362	366	POLFA Krynów	4419	70	841	251		442	171	591						
363	395	AGROMET BOFAMA Rogoźno	4405	70	841	251		442	171	591						
364	395	Wiw. Tronno Przem. Augustów	4393		516	334		515	335	510						
365	405	ZWO YERA Łódź	4392	1436	2167	76		731	238							
366	331	Fabryka Moli Wyszki	4388	616	707	263		555	308	47						
367	350	AGROMET-UNIA Głubiszew	4387	184	749	274		555	308	47						
368	402	Z-dy. Kocz. Spoz. Poznań	4382	95	95	431	68	182	488	100						
369	358	ZPM GWARDDI LUD Radomsko	4382	95	95	431	68	182	488	100						
370	332	Z-dy. Mechn. Tarnów	4383	495	775	268		768	228	188						
371	376	Z-dy. Siod. Opalunek Pabianice	4368	9	337	385		328	426	171						
372	411	KRYWALD-ERG Krynów	4327	186	621	301		435	376	117						
373	284	POLWATEX-WIFA Łódź	4321	16	526	414		427	379	41						
374	378	Z-dy. Papi. Włocławek Warszawa	4320	16	446	535		778	223	142						
375	378	Z-dy. Papi. Włocławek Warszawa	4313	16	446	535		778	223	142						
376	365	Z-dy. Nowy Sącz	4313	1	587	320		595	303	222						
377	382	Z-dy. Nowy Sącz	4278	4	587	320		595	303	222						
378	416	FABRYKA Zamość	4278	651	824	213		595	303	222						
379	352	ERG Gliwice	4275	99	319	358		418	383							
380	410	ZPB PIAST Głuszyca	4271	395	814	239		418	383							
381	420	PRUMET-ERG Soczewice	4271	312	174	419		328	426	171						
382	420	PRUMET-ERG Soczewice	4270	46	393	377		328	426	171						
383	333	PZT Zamość	4240	43	2124	497		710	245	463						
384	373	AGROMET Czarna Białost	4227		753	272		706	246	347						
385	354	ZFUMAL-Bytom	4216		524	331										

[illegible]

KEY TO "500 LIST" CHART:

1. Sales ranking
2. Year
3. Name of industry and branch symbol
4. Sales
5. Sales tax
6. Aggregate net earnings
7. Subsidies
8. Net earnings
9. Income tax
10. Net profitability
11. Net output
12. Average employment
13. Productivity measured by net output sold in 1 year
14. Average monthly wage
15. Productive fixed assets (gross book value on 31 Dec)
16. Fixed assets depreciation rate
17. Operating Fund-Reserves Coefficient (in percents)
18. mln zl=in millions of zlotys
poz.=ranking
liczba zatrud.=number of employees
tys. zl=in thousands of zlotys
19. Total for the "500"

CS0: 2600/87

POLAND

SHIPPING, SHIPBUILDING, SEA TRANSPORT, FISHING STATISTICS 1983-1984

East Berlin SEEWIRTSCHAFT in German No 9, Sep 85, pp 456-61

[Article by Prof Czeslaw Wojewodka: "The Polish Shipping Industry in 1984"]

[Text] Last year additional progress in stabilizing the nation's economy was achieved. National income rose in comparison to 1983 by about 5 percent, and industrial production was 5.3 percent above the previous year's figure. In foreign trade, an increase of 9 percent was registered both in exports and in imports. Because the rate increases in foreign trade last year with non-socialist countries (exports +12.4 percent, imports +13.2 percent) were higher than with socialist countries (exports +5.5 percent, imports +5.9 percent), sea transport as part of Polish foreign trade has also increased sharply, since about 90 percent of it is made up of transport to and from non-socialist countries. Consequently, the amount handled in the seaports and the productivity of the merchant fleet increased.

Sea-Borne Freight

Last year, foreign trade by sea reached 46.5 million tons, 8.4 million tons (+22 percent) above last year's figure. Exports by sea have risen 29.8 percent, corresponding imports by 5.2 percent. The share of sea-borne freight in total foreign trade reached 40.8 percent (1983: 37.8 percent), 54.7 percent of it in exports (1983: 50 percent).

In exports by sea it was primarily transport of coal and wood that increased. Imports show a greater volume of iron ore. Transport of grain and imports of other bulk materials showed a decline. Break-bulk material transport rose both in imports and in exports. The import of mineral oil also increased.

Handling of materials in transit rose sharply in Polish seaports again, to 7.7 million tons, an increase of 1.2 million tons (+19.3 percent), which is primarily attributable to a further increase in handling petroleum for the USSR.

Ports

Handling of materials in Polish ports rose last year to 56.5 million tons, that is, by 21.8 percent (10.1 million tons) compared with 1983 (Table 1).

Table 1. Productivity of Polish Ports in Materials Handling in 1983 and 1984
(10³ tons)

Type of Cargo and Port	1983				1984				
	Total	Imports	Exports	Coastal and Inland	Total	Imports	Exports	Coastal and Inland	Changes 1983:1984 in percent
<u>Total</u>	46,409	14,847	30,631	931	56,513	15,913	39,386	1,212	+21.8
<u>Types of Freight</u>									
Bulk Cargo	34,656	11,909	22,209	538	42,555	12,705	29,177	673	+22.8
--Coal and Coke	19,688	-	19,261	407	26,312	10	25,742	560	+33.8
--Iron Ore	4,538	4,412	126	-	6,029	5,848	181	-	+32.9
--Grain	3,153	3,112	1	40	2,887	2,712	127	48	-8.4
--Other Bulk Cargo	7,297	4,385	2,821	91	7,327	4,135	3,127	65	+0.4
Mineral Oil and Products	3,773	669	3,044	60	4,629	921	3,514	194	+22.7
Wood	1,423	105	1,295	23	1,827	84	1,724	19	+28.4
Break-Bulk Cargo	6,557	2,164	4,083	310	7,502	2,203	4,971	328	+14.4
<u>Origin of Load</u>									
Polish Foreign Trade	38,985	12,200	26,785	-	47,553	13,034	34,519	-	+22.0
<u>Transit Traffic Ports</u>									
Gdansk	18,360	3,234	15,054	72	21,655	3,448	18,004	203	+17.9
Gdynia	8,868	4,357	4,496	13	11,271	4,607	6,650	14	+27.1
Szczecin-									
Swinoujscie	18,885	7,148	10,896	841	23,319	7,774	14,554	991	+23.5
Kolobrzeg	207	67	135	5	205	68	131	6	-1.0
Darlowo	89	39	50	-	63	16	47	-	-29.2

This was the largest increase in years. Except for grain, all types of cargo showed an increase, which was largest for coal handling (up by 6.6 million tons to 26.3 million tons, a 33.8-percent increase in comparison to 1983). Ore handling increased by 1.5 million tons to 6.0 million tons, up by 32.9 percent over 1983, handling of mineral oil rose by 0.9 million tons to 4.6 million tons (up by 22.7 percent). Wood showed a continuing tendency to rise, and it climbed by 0.4 million tons in comparison to 1983 to 1.8 million tons (28.4 percent). Break-bulk goods also showed an increase, with 7.5 million tons (+0.9 million tons, or 14.4 percent). The figures for break-bulk handling include 848,000 tons of container freight (+8.8 percent). Container traffic made up 11.3 percent of the total amount of break-bulk cargo handled. In addition, 295,000 tons of break-bulk freight on pallets and 1,634,000 tons of bundled wood were transloaded. As a result of the increase in coal handling, the directional structure of material handling in Polish ports has shifted further in favor of exporting, which has once more reached 71.8 percent of the total material handled.

Foreign trade and transit traffic were both involved in the increase in material handled in Polish docks in 1984. Material handled for foreign trade rose by 22 percent (8.6 million tons) to 47.5 million tons and it accounted for 84.1 percent of the total handled in the docks. Transit traffic (7.7 million tons) made 13.7 percent of the total. Inland and coastal shipping contributed 2.1 percent.

In transit handling at Polish seaports for 1984, the USSR is in first place with 2.7 million tons, which is almost exclusively the handling of mineral oil (Table 2). The CSR, with 2.6 million tons (+208,000 tons, or 8.6 percent), became the second largest transit customer for Polish seaports. Material in transit for Austria climbed by 188,000 tons (23.7 percent) to 981,000 tons, and for Hungary by 232,000 tons (37.5 percent) to 851,000 tons. Transit for the GDR, by contrast, declined by 74,000 tons (-39.6 percent) to 113,000 tons. Transit traffic in Polish seaports shows a good structure of cargo types--break-bulk traffic makes up almost 30 percent of it, but it constitutes only 13.3 percent of the total port material handled.

Among the individual ports, Gdynia registered an increase of 27 percent in its total of material handled in comparison to 1983, Szczecin-Swinoujscie 23.5 percent and the port of Gdansk 17.9 percent. By comparison, traffic in the small ports showed a decline.

Material handled in Gdansk increased by 3.3 million tons. Its share of the total handled in Polish seaports was 38.3 percent, coal was 40.2 percent, wood 57.0 percent and oil 81.5 percent. As a result of the Soviet oil transit traffic (2.652 million tons), the northern port was able to operate at higher capacity, because the total material handled there came to 8.844 million tons of coal and 3.563 million tons of mineral oil and mineral oil products. Wood, with 1.041 million tons, reached a record high figure. At the special installation for sulfur, 2.246 millions tons were handled, 0.666 million tons in liquid form. Handling of calcium-fluoro-triphosphate and phosphate amounted to 1.485 million tons. At 11,000 tons, handling of containers was minimal.

Gdansk was in second place, with 3.127 million tons in transit material handled. Of this, 2.652 million tons was for the USSR, 335,000 tons for the CSSR and 99,000 tons for Hungary.

Table 2. Transit Material Handling Productivity of Polish Seaports in 1983 and 1984 (10³ tons)

Types of Cargo, Ports and Countries	1983		1984				
Total	6,493	2,647	3,816	7,746	2,879	4,867	+19.3
<u>Types of Cargo</u>							
Bulk	2,173	1,960	2,213	2,544	2,241	303	+17.1
Wood	204	56	148	232	74	158	+13.7
Break-bulk	1,955	631	1,324	2,318	564	1,754	
Mineral oil and mineral oil products	2,161	-	2,161	2,652	-	2,652	+22.7
<u>Ports</u>							
Gdansk	2,615	280	2,335	3,127	314	2,813	+19.6
Gdynia	896	207	689	1,104	349	755	+23.2
Szezecin-							
Swinoujscie	2,980	2,160	820	3,504	2,216	1,288	+17.6
Kolobrzeg	2	-	2	11	-	11	+450.0
<u>Countries</u>							
USSR	2,161	-	2,161	2,656	-	2,656	+22.9
CSR	2,125	1,338	1,087	2,633	1,291	1,342	+8.6
Austria	793	753	40	981	937	44	+23.7
Hungary	619	300	319	851	407	444	+37.5
GDR	187	86	101	113	76	37	-39.6

In Gdynia the amount of material handled in 1984 was 2.4 million above last year's figure. The port of Gdynia's share of the total handled in Polish sea ports was 19.9 percent. Coal handling in particular increased (by 69.6 percent to 4.3 million tons), as did ore handling (by 27.1 percent to 1.6 million tons). Break-bulk traffic, with 3.1 million tons, was 10.2 percent higher than last year. Gdynia was again in first place in break-bulk cargo handling among the Polish seaports with a share of 41.9 percent of the total. Its share in grain handling was even higher: it was 50.2 percent.

Gdynia is also the largest Polish container port. Last year 748,000 tons of break-bulk cargo in containers were handled (+8.4 percent). Gdynia's share last year of the total container traffic in Polish ports was 88.2 percent. Of this, 592,000 tons were handled in the new terminal on the Helskie quay, which is undergoing further expansion. An additional 138,000 tons of container freight was handled in the first container terminal on the Polskie quay. Gdynia also handled the largest amount of general cargo on pallets, with 156,000 tons (+41.8 percent) (52.9 percent of the total volume of all Polish ports).

Transit traffic in Gdynia in 1984 increased by 23.2 percent, reaching 1.104 million tons. The share of the CSR was 655,000 tons, that of Hungary 363,000 tons and the GDR 41,000 tons.

The twin ports of Szczecin-Swinoujscie registered the largest increase in material handled, with 4.4 million tons. Their share of the total amount handled in all Polish seaports amounted to 41.3 percent. The increases were mainly in ore (by 35.5 percent to 4.2 million tons) and coal (by 34.4 percent to 11.4 million tons). Handling of wood, 776,000 tons, was 21.8 percent above last year's figure, general cargo handling amounted to 2.96 million tons (+21.4 percent).

Swinoujscie handled 10.1 million tons (17.9 percent of the total for Polish ports), of which 5.3 million tons were coal, 2.3 million tons iron ore, 1.1 million tons of other bulk cargo and almost 1 million tons of general cargo. Ferry traffic reached a volume of 893,000 tons. Container handling in Szczecin-Swinoujscie rose to 89,000 tons (+20.3 percent) compared with 1983.

The largest amount of transit traffic came through the twin ports of Szczecin-Swinoujscie. Last year it was 3.504 million tons (+17.6 percent), that is to say, 45.2 percent of all transit handling in Polish ports. Of this amount, 1.643 million tons were destined for the CSR (62.4 percent of the entire traffic of the CSR through Polish seaports), 958,000 tons for Austria (97.6 percent), 378,000 tons for Hungary (44.4 percent) and 72,000 tons for the GDR (63.7 percent).

The twin ports of Szczecin-Swinoujscie also reported the greatest amount of passenger traffic among the Polish ports, mainly through the ferry port in Swinoujscie (connections to Ystad, Copenhagen and Travemünde). Last year, passenger traffic in Polish seaports reached 239,730 persons (+35.7 percent), and of these 177,983 (+40.5 percent) passed through Szczecin-Swinoujscie, constituting 74.2 percent of the total traffic.

In shipping traffic, Polish ports registered 10,058 incoming ships last year, with 27.190 million NRT. They included 4,685 Polish ships with 27.190 million NRT (49.7 percent of the total shipping traffic) and 5,373 foreign ships with 13.674 million NRT. Among the foreign flags the USSR was represented most strongly, with 1.83 million NRT, followed by Finland (1.076 million NRT), Greece (0.938 million NRT), Sweden (0.861 million NRT) and Panama (0.812 million NRT). The GDR, with 166 ships and 445,010 NRT, was in 10th place.

There was only limited investment in Polish seaports last year. The expansion of the container terminal in Gdynia, the new ore and coal handling installation in Swinoujscie and the ferry port was continued,

For 1985 a slightly smaller amount of material is expected to be handled than in 1984 (about 54 million tons). The amount of transit traffic is to be maintained at the 1984 level. Because the 3-year plan from 1983 to 1985 is coming to an end, it is estimated that the quotas in material handling for the seaports will be met with 115.6 percent.

Shipping

Following the 15.5-percent decline in the previous year, the fleet's tonnage rose again slightly in 1984 (+2.7 percent), with transport productivity increasing by as much as 6.3 percent. However, only bulk cargo tonnage has increased, with four new vessels totalling 73,395 BRT [gross register tons] and 118,318 tdw (three bulk cargo freighters, each of 26,600 tdw from Argentina, and one of 38,500 tdw from Bulgaria). In addition, a 145,000 tdw tanker, which had been sold in 1983, was bought back.

Line tonnage was further reduced as the result of the scrapping of 19 older ships; 5 old bulk cargo carriers were likewise scrapped. Thus the Polish merchant fleet had 278 ships at its disposal at the end of 1984, totalling 2,668,000 gross tons and 3,972,000 tdw. Tonnage of the tramp steamer companies (Polish Steamship Company, Polish Shipping Company) rose by 7.7 percent to 1,699,000 gross tons and 2,741,000 tdw; the tonnage of the line shipping companies (Polish Ocean Lines, Polish Shipping Association, Polish-French Shipping Company, Polish-Spanish Shipping Company) dropped by 8.0 percent to 843,000 gross tons and 1,062,000 tdw. The tonnage of the coastal shipping and ferry company Polish Baltic Shipping Company also declined: by 16.7 percent to 25,000 gross tons and 15,000 tdw. Finally, the Chinese-Polish Shipping Company's fleet increased by one new ship to 101,000 gross tons and 154,000 tdw (Table 3).

As the result of the repurchase of one tanker, the only change in the structure of the Polish merchant fleet was the share taken by tanker tonnage, it came to 13.5 percent (1983: 10.2 percent). Bulk carriers make up 51.9 percent of the total tonnage, container ships 10.9 percent.

The average age of the Polish fleet--compared with 1983--has risen by 0.3 years to 10.5 years, that of the line freighters by 0.7 years to 12.6 years. The proportion of the ships less than 5 years old is 22.6 percent, between 6 and 10 years 37.9 percent, 11 and 15 years 20.7 percent, 16 and 20 years 13.8 percent, 21 and 25 years 4.2 percent, and more than 25 years 0.8 percent.

Table 3. Polish Merchant Fleet 1983 and 1984 (as of 31 December)

	1983			1984			
	Number of ships	Gross register tonnage (10 ³)	Deadweight tonnage (10 ³)	Number of ships	Gross register tonnage (10 ³)	Deadweight tonnage (10 ³)	Changes from 1984:1984 in percent (tdw)
<u>Total Shipping Companies</u>	295	2,624	3,857	278	2,668	3,972	+2.9
Line Shipping	148	903	1,154	134	843	1,062	-8.0
--Polish Ocean Lines	6	62	78	6	62	78	0.0
--Polish Shipping Association	134	647	901	119	587	809	-10.2
--Polish-French Shipping Co.	4	120	90	4	120	90	0.0
--Polish-Spanish Shipping Co.	4	74	85	4	74	85	0.0
Tramp Shipping	119	1,596	2,546	119	1,699	2,741	+7.7
--Polish Steamship Co.	26	215	330	26	215	330	0.0
--Polish Shipping Co.	93	1,381	2,216	93	1,484	2,411	+8.8
Polish Baltic Shipping Co.	17	26	18	13	25	15	-16.7
Chinese-Polish Shipping Co.	11	99	139	12	101	154	+10.8
<u>Ship Types</u>							
Dry freighters including:	279	2,346	3,447	261	2,309	3,416	-0.9
--Bulk carriers	73	1,227	1,968	76	1,284	2,063	+4.8
--Container ships*	37	404	431	37	405	432	0.0
Tankers	8	227	393	9	308	538	+36.9
Passenger ships	1	15	6	1	15	7	0.0
Ferries	7	36	11	7	36	11	0.0
New Acquisitions	5	94	130	6	170	280	+115.4

* Including semicontainer and ro-ro ships

At the end of 1984, 26.7 percent of Polish tonnage (in tdw) belonged to line shipping operations and companies, 69.0 percent to bulk cargo operations and companies, 0.4 percent to the Polish Baltic Shipping Company (coastal shipping and ferries) and 3.9 percent to the Chinese-Polish Shipping Company.

Transport productivity of Polish maritime shipping rose last year to 35.4 million tons (+6.2 percent), while productivity in ton-miles dropped by 1.9 percent to 104 billion. Polish foreign trade goods in the amount of 23.3 million tons (+9.7 percent) and 2.6 million tons (+26.5 percent) were carried. Transport between foreign ports came to 9.6 million tons (-11.1 percent), which is 26.9 percent of the total transported, which again indicates a high share (Polish foreign trade 65.8 percent, transit 7.3 percent) and contributes to the fleet's working efficiently at full capacity.

Last year line shipping carried 6.4 million tons (+5.5 percent), bulk cargo shipping carried 29.0 million tons (+6.4 percent).

Compared with 1983 the principal increase has been in the transport of iron ore (+ 4.8 million tons, or 33.6 percent), and also in the transport of coal (+ 11.3 million tons, or 17.6 percent). Transport of break-bulk cargo climbed to 6.6 million tons (+8.2 percent), and the movement of petroleum and oil products to 5.2 million tons (+19.0 percent). Grain shipments declined on the other hand (to 2.1 million tons, to 28.9 percent), wood (77,000 tons, 26.7 percent) and other bulk cargoes (to 5.1 million tons, 9.8 percent).

As the result of the increasing full usage of container tonnage, corresponding productivity rose to 1.9 million tons (+32.7 percent). It is remarkable that the container transportation of the Polish fleet was 124 percent higher than container handling in Polish seaports, which means that a greater part of the containers was carried between foreign ports. Part of the reason for this is that the container line to the United States for the most part only runs to and from Bremerhaven because of insufficient availability of cargoes, and the traffic with Gdynia is managed with feeder ships. As the result of increased productivity this line became profitable last year. With four con-ro freighters it is among the most efficient owned by Polish Ocean Lines. Operating from Europe to North America, these ships were operating at full capacity last year, with available reserves for the return voyage. This is of interest to the extent that Polish Ocean Lines has raised its transport capacity on the North American route three-and-a-half fold by the use of these ships.

In addition to containers, the Polish merchant fleet last year carried 255,000 tons of goods on pallets, although this form of transport showed a decline compared to last year (down by 21.3 percent).

Overall the Polish merchant fleet last year carried about 48 percent of Polish foreign trade goods in sea-borne traffic (1983: 52 percent). This demonstrates that the development of the fleet is not matching the rise in sea-borne foreign trade.

Productivity in passenger traffic rose 28.8 percent last year, in passenger miles the increase was as much as 38.3 percent. A total of 281,200 persons

was carried, 254,900 of them on ferries, consequently over short distances, 12,900 on the passenger ship "Stefan Batory" and 13,400 on freighters.

The expansion of the Polish merchant fleet, particularly the line fleet, continues to encounter delays. This is due primarily to small deliveries on the part of the Polish shipbuilding industry, over 90 percent of whose production goes for export. So Polish shipping companies are also interested in placing orders for ships abroad, although the relatively high prices and unfavorable conditions for credit cause difficulties. Currently bulk cargo freighters are under construction for Polish tramp shipping, 38,000 tdw in Bulgaria and 27,000 and 61,000 tdw in Argentina. Last year 8 bulk cargo freighters, each of 23,000 tdw were ordered in Turkey, where they are to be built following Polish plans and with material and fittings from Poland. The Polish Steamship Company will also finance the construction of 12 coastal freighters, each 2,000 tdw, for Polish Baltic Shipping, to be built in the inland shipbuilding yard in Wroclaw, which has experience in the construction of sea-going ships.

The reintroduction of steam boilers with coal firing and sail power is also planned for the future in Polish tramp shipping. The Szczecin yard is to build the first coal-fired steam freighter, then a series is to be built abroad. For the time being only studies are being conducted concerning the use of sails on freighters.

This year Polish yards are to deliver 3 more bulk cargo freighters of 32,000 tdw to the Polish fleet. Further deliveries of bulk cargo freighters will follow, of 27,000 tdw (2 ships) and the first of 2 of 61,000 tdw from Argentina and one more bulk cargo freighter of 38,000 tdw from Bulgaria.

This year Polish Ocean Lines can only count on the purchase of second-hand ships from abroad. They started with a ro-ro freighter from Finland of 4,000 tdw in March this year. Scheduled deliveries of ships from Polish yards were postponed until coming years.

The merchant fleet's productivity is expected to rise only minimally this year to 36 million tons. The 3-year plan 1983 to 1985 is expected to reach 106.6-percent fulfillment.

Shipbuilding and Ship Repair

Again last year there was a decline in production in ship construction, but only in volume, because the output in shipbuilding rose in value by 7.1 percent. Last year 44 ships were built in Polish yards, with a total of 344,347 gross register tons (-9.3 percent) and 484,923 tdw (-8.8 percent) (Table 4). The Lenin yard in Gdansk achieved the greatest output among the major yards, with 129,600 gross tons, followed by the Paris Commune yard in Gdynia, with 116,900 gross tons and the Warski yard in Szczecin, with 86,570 gross tons.

The pattern of shipbuilding shows that freighters take the largest share, with 299,070 gross tons and 461,110 tdw. Among them were 7 different break-bulk freighters with 91,070 gross tons and 112,610 tdw; they included a semi-

container freighter of 19,555 tdw, multipurpose freighters of 16,300 and 17,300 tdw and refrigeration ships of 7,500 tdw. Three tankers of 105,00 gross tons and 178,000 tdw as well as 4 bulk freighters of 103,000 gross tons and 170,500 tdw were built.

Table 4. Shipbuilding production in Poland 1983 and 1984

	1983			1984		
Total	36	379,663	531,810	44	344,347	484,923
<u>Shipyards</u>						
Lenin, Gdansk	12	104,100	130,200	13	129,600	176,900
Paris Commune, Gdynia	4	194,400	214,600	4	116,900	190,400
Warski, Szezecin	11	74,385	83,760	12	86,570	115,110
North, Gdansk	3	6,458	2,650	7	8,977	1,733
Ustka, Ustka	6	720	600	7	1,610	700
Wislaw, Gdansk	-	-	-	1	690	80
<u>Types of Ship</u>						
Tankers	4	184,000	297,000	3	105,000	178,000
Bulk freighters	2	58,593	98,250	4	103,000	170,500
Bulk-break freighters	7	91,070	113,610	7	91,070	112,610
Fishing boats	8	7,420	4,500	15	16,455	10,665
Others	20	38,580	18,450	15	28,822	13,148
<u>Contracting Country</u>						
Poland	9	25,763	36,250	1	1,900	2,300
Sweden	-	-	-	2	53,000	94,800
Liberia	5	160,970	252,910	1	52,000	83,200
USSR	15	42,748	25,650	26	50,732	28,448
Finland	-	-	-	2	40,000	65,600
Norway	1	38,000	65,000	1	38,000	65,000
FRG	-	-	-	2	28,970	39,110
Columbia	3	42,000	51,900	2	28,000	34,600
France	-	-	-	1	25,000	39,900
Greece	1	11,500	15,100	1	11,500	15,100
Iceland	-	-	-	3	945	465
Bulgaria	-	-	-	1	300	100
Malaysia	1	52,000	83,200	-	-	-
Turkey	1	6,682	1,800	-	-	-

Fifteen boats totalling 16,455 gross tons were built for the fishing industry. Fifteen additional units, totalling 28,822 gross tons, were built, primarily for the off-shore area.

The first ships of the following types were delivered in 1984:

- bulk freighter of 39,900 tdw (for France),
- bulk freighter of 32,800 tds (for Finland),
- fishing trawler of 220 gross register tons (for Iceland),
- fishing trawler of 250 gross register tons (for the USSR).

Construction of an additional new types of ships was started, the first of which will be delivered in 1985 (including research and crane ships for the off-shore area of the USSR). The third large ferry (about 20,000 gross tons) for the Stena Line (Sweden) was also launched; three of these ships are now being fitted out and a fourth is still to be built. The first two ferries should probably be delivered at the end of 1986.

The greatest part of Polish shipbuilding production was destined for foreign shipowners (99.4 percent). All in all, 43 ships totalling 342,447 gross register tons and 482,623 tdw were built for export. With the exception of the USSR, which took a 14.8-percent share of the total export production of Polish shipyards, most of the ships, above all tankers and freighters, were delivered to Sweden, Liberia, Finland, Norway, the FRG, Columbia and France.

The value of exports to socialist countries (ships, ships equipment, etc.) rose to R 369 million, those to other countries \$228 million. Deliveries to socialist countries remained at about the level of 1983, while exports to other countries declined by about 18 percent.

Imports of ships equipment from capitalist countries declined in 1984 by 48 percent (to \$33.8 million), while imports from socialist countries rose to R 44.1 million, that is to say, they doubled.

Only one ship was delivered to the Polish merchant fleet in 1984, intended for the Chinese-Polish Shipping Company and consequently counted under export production. The fishing fleet received a 2,300-tdw refrigerated transport ship.

Also in 1984 the number of those employed in the shipbuilding industry dropped further (by 1,675); at the same time productivity rose by about 10 percent.

The Polish shipbuilding industry received several new orders last year, principally from the USSR. Among them were another 25 "Neftegas"-type supply tugs, each of 2,7000 gross tons (value of the contract R 310 million), 4 geophysical research ships (value of the contract R 21 milion), 3 catamaran-style coastal passenger ships for the "White Fleet" (value of the contract R 19 million), and 2 training ships. At the beginning of 1985, orders included 7 harbor and anchorage tugs, 7 push tugs, 5 fireboats (value of the contract R 50 million) and 5 small passenger ships. A Finnish shipowner ordered a ro-ro ship, the second ship of this type for which Finland has placed an order in recent years (8,300 tdw).

The Polish shipbuilding industry's backlog of orders will keep production facilities working at full capacity until 1987. This year 59 ships, totalling 720,500 tdw, are to be built in Polish shipyards. Production will be almost one-half greater than in the previous year (but only 16 percent greater in value). Exports to socialist countries are to increase further (by 27 percent compared with 1984) and those to capitalist countries will continue to decline (by 15 percent).

Last year 646 ships, totalling 2,042,500 gross tons, were overhauled in the repair yards (only current classification and dock repairs)--32 ships, or 239,100 gross tons more than in 1983. The overall total (including repairs between voyages and damage repair) was 3,095 ships. This included 520 foreign ships, 259 of them ships totalling 896,000 gross tons in running, classification and dock repair. In comparison to 1983 repairs to foreign tonnage increased by 97 ships, or 208,500 gross tons. About 72 percent of export repairs were carried out on ships from the USSR and 14.4 percent on ships from the GDR. The FRG, Greece and the Netherlands appear most frequently among the capitalist flags.

Fishing

Polish fishing continues to have difficulties in gaining access to the rich fishing grounds that lie inside foreign fishing zones. On the other hand, the fishing fleet shows a mild decline because of a lack of investment. The volume of the catch in 1984 fell to 680,000 tons (-5 percent). The Baltic fishing fleet took 180,000 tons of this, and the long-range fleet 500,000 tons.

The fishing fleet now has 569 ships available, totalling 305,000 gross tons (-0.7 percent). One refrigerated transport ship of 2,300 tdw built in Poland was put into service. At the same time, several old catch ships were retired from service and sold for scrap.

The domestic market received 254,000 tons of fish and fish products (+8.8 percent). One part of the catch was exported right away. In 1984 each inhabitant consumed about 6.9 kgs of fish.

As far as the further development of Polish sea fishing is concerned, there is a program in existence for the fleet until 1990, but its implementation is not running according to schedule because the fishing industry does not have adequate investment funds at its disposal. According to the first version of the program 31 factory ships, 31 cutters and 4 refrigerated transport ships are to be built by 1990. Only if these investment plans are carried out will it be possible to achieve a catch in 1990 of about 350,000 to 550,000 tons in deep-sea fishing and 200,000 in the Baltic and to guarantee a consumption of 6.0 to 7.6 kgs of fish and fish products per inhabitant.

This year about 700,000 tons will be landed, slightly more than last year. In the 3-year plan 1983 to 1985 catch quotas will be met by 119.9 percent and domestic supplies by 112.8 percent.

Future Policy and Development of the Shipping Industry

Work continued last year on interpreting the future policy of the Polish shipping industry. In accordance with the corresponding resolution from the 10th Plenary Session of the Central Committee of the United Polish Workers Party of 28 October 1982 and the detailed plans and designs of the government, this point was discussed by Sejm. The government's information, presented by the minister of shipping, was noted in a resolution. Parliament determined at the same time that Poland's situation as a coastal nation is not being adequately utilized and that further activity in this area is needed. The principal objective was established of exploiting the bounty of the sea and Poland's seaward location in conjunction with the national, political, economic and social interests of the state, and the appropriate tasks were determined:

- increasing shipping's share of the national income and improving the nation's balance of payments through the reconstruction and modernization of the merchant fleet, of the shipbuilding and repair yards and the seaports
- raising shipping's share of the international division of labor in accordance with existing production capacity, the opportunities and requirements on the part of the economy
- stopping any further degradation and gradual improvement of the environment in the Baltic area
- ensuring the supply of the domestic market with fish and fish products and of agriculture with feed from fish processing
- rational utilization of the Polish coast and the coastal zone
- harmonic integration of the development of the shipping industry with the country's technical and social infrastructure and with the development of the Baltic region
- further utilization of sea and coastal areas for the purposes of recuperation, medical treatment, etc.
- deepening the knowledge and interest of the populace, primarily of young people, concerning maritime problems and constantly developing the maritime awareness of the nation.

Parliament accepted the principal directions of development for the nation's maritime policy and has required them to be incorporated into the prospective plan until 1995 and into the next 5-year plan from 1986 to 1990. The government was held responsible for informing parliament on a regular basis about the realization of these objectives.

9581
CSO: 2300/23

POLAND

BRIEFS

POLISH-MONGOLIAN COOPERATION--A Polish-Mongolian agreement on trade and payments for the years 1986-1990, and a trade protocol for 1986, were signed in Warsaw on 2 October. An 80 percent increase in Polish-Mongolian trade is anticipated during the next five years compared to the 1981-1985 period. Poland will sell to Mongolia machinery and equipment for various industries, agricultural aircraft and a variety of consumer goods. In return, it will import Mongolian raw materials for light industry, meat, leather articles and other consumer goods. The documents were signed by the Polish and Mongolian Ministers of Foreign Trade, Tadeusz Nestorowicz and Djamsrangi Dulmaa. Minister Dulmaa was also received by Deputy Premier Zbigniew Szalajda. [Text] [Warsaw RZECZPOSPOLITA in Polish 3 Oct 85 p 5]

FSO-RENAULT NEGOTIATIONS--Talks between the management of the FSO car factory in Warsaw and the POLMOT foreign trade enterprise with the president of Regie Renault, M. Georges Besse, were held over the last few days. This meeting follows the decision of the Government Presidium regarding the development of the car industry in Poland. The talks concerned the most important areas of possible cooperation, with special emphasis on credit arrangements and repayment in kind. [Text] [Warsaw ZYCIE WARSZAWY in Polish 11 Oct 85 p 1]

POLISH-BRITISH ECONOMIC TALKS--On 14-17 October, 1985, the Science and Technology Subcommittee of the Polish-British Joint Commission met in Warsaw to discuss cooperation between the two sides. Both parties are increasingly interested in developing scientific and technological cooperation as a factor promoting economic and commercial exchanges between the two countries. The Polish side presented the British partners with a list of proposed topics for cooperation in chosen areas, such as agriculture, health protection and industrial electronics. The list was prepared by the Office for Technological Progress in cooperation with the ministries and central economic organizations involved. The British side was also presented with a list of export proposals of Polish scientific and technological achievements. An appropriate protocol on these matters was signed. [Text] [Warsaw RZECZPOSPOLITA in Polish 19-20 Oct 85 p 8]

/9274
CSO: 2020/23

YUGOSLAVIA

EDITORIAL DISCUSSES INCREASED BUDGET, TAXES, INFLATION

Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 23 Sep 85 p 5

[Editorial: "The Right To Rebalance the Budget"]

[Text] The fact that budget revenues are lagging behind the rate of inflation (they are decreasing in real terms) seems to be sufficient reason for undertaking to rebalance the federal budget (but also those of lower-level sociopolitical communities) and to increase the tax burden. As for the federal budget, whose revenues increased 46 percent in the first 7 months of this year (about 30 index points less than the rate of inflation), there are only two ways to get more money: to increase the Federation's own revenues (by raising the rates of the basic turnover tax, customs duties and import charges), but it could also be done by increasing the contribution established for the republics and provinces to the federal budget.

This latter solution is considerably more sensible, since it would yield more favorable results in both economic and social terms. That is, the proportional pattern of the budget revenues of the lower-level sociopolitical communities is somewhat more favorable, since direct taxes are more heavily represented (taxes on corporate income, on personal earnings, on other income from work and from property). This also signifies a smaller concession to the rise of prices and a greater harmony between the tax obligation and the taxpayer's ability to pay, and it also means more favorable social welfare benefits and a higher degree of interest of the republics and provinces in the size and composition of government expenditure in the Federation. But experience to date (and what has been manifested in practice as the interest of the republics and provinces) indicates that the choice of the first solution--raising the rates of the basic turnover tax--is almost certain, though it is possible that the contribution of the republics and provinces to the federal budget will be increased, but not beyond the increases of the revenues of the republic and provincial budgets because of the rise of the basic turnover tax (a portion of this tax is a revenue of the budgets of the republics and provinces). It is clear that this would be a rather fateful move from both the economic and the social welfare standpoint, since it means a new degradation of the tax system and tax policy, a new removal of social welfare policy from all acceptable goals, and a new thrust, not a small one, for a higher rate of inflation.

Incidentally, the Federation would be the last to have the right to demand a rebalancing of the budget because the rate of inflation is twice as high as planned. After all, no one is so much to blame for that kind of inflation as federal bodies and agencies. This assessment is not altered by the difficulties which have cropped up in performance of certain federal functions. It is not the task of those employed in business organizations to fight inflation. Their primary interest is to minimize cost (input prices) and to maximize income (output prices). Nor is the influence of the opstina and the republics and provinces decisive, though not insignificant either. It is manifested not so much through tax policy, utility rates and the like as through the favoring of local enterprises, especially construction contractors and producers of capital goods.

What has been done in the Federation to slow down inflation, that is, to bring it within the planned 40 percent or so? Almost nothing with the exception of the Law on Social Price Control. The other moves made in the sector of the market and prices, such as the May decision to roll back prices to the February level or postponement of the price rises for certain products and services and similar measures, had the opposite effects, since the causes of the price rises were even accentuated--increased losses, larger inventories, higher interest charges and other costs.

The very fact that prices are rising as inventories grow is indicative of the profound systemic disturbances in the country's economy. This proves that work organizations are not primarily interested in the actual financial results of the conduct of their business, but in minimizing the consequences which could tend to reduce personal incomes. That is why inventories are growing; in most organizations they are financed with short-term credits, since the economy as a whole does not have resources of its own to finance current reproduction. Since a high nominal rate of interest is paid on those credits, business costs are increasing drastically. There is also another possibility--cutting back production. Since even in this case the size of the labor force would remain the same (or would even increase), the financial result would be the same--production costs per unit output would be higher. This means that organizations are primarily motivated to show the most favorable condition in their bookkeeping. That is why inventories are reaching an unrealistically immense value, approaching the country's annual social product. Unless essential changes in the system are undertaken that would put those employed in enterprises on the same footing as owners of resources with respect to their material interests, which means at least changing the system for computing gross income and income so as to prevent a growth of inventories, that is, so that the growth of inventories would have to be charged to the gross income of the current period.

Material disruptions are another problem. There are immense fictional quantities not only in the balance sheets of business organizations, but also in the banks where balance sheets are drawn up. What about the government? Both the federal budget and the budgets of other sociopolitical communities appear to be balanced, since expenditures as a whole are covered from the revenues collected. When revenues prove to be inadequate, budgets are rebalanced and taxes are raised, which is exactly what is happening now. In essential terms the

largest uncovered expenditure, the largest deficits and most dubious aspects are in fact concealed in the federal budgets and indirectly in the budgets of the republics and provinces.

Let us look only at the differences in rates of exchange in the National Bank of Yugoslavia, which this year alone will increase by at least 1,500 billion dinars and exceed the sum total of 3,000 billion dinars. The annual growth of negative differences in rates of exchange in the National Bank of Yugoslavia is alone more than twice as large as this year's entire federal budget. Can the Federation or the federal budget stand aloof from the financial obligations of the National Bank of Yugoslavia? Of course it cannot, since the National Bank of Yugoslavia is an integral part of the government in whose name and on whose account it conducts specific money transactions. The figures themselves are sufficient evidence of the size of this deficit and its importance as a source of inflation. There is a similar question with interest on credits to finance the current business operation of economic organizations, which this year exceed the sum total of 1,500 billion dinars. Nor has anything at all been done in the Federation to reduce this source of inflation either.

Although by comparison with these figures the growth of the federal budget (and higher taxes), which will almost certainly occur, does not seem so important, the pressure toward higher inflation will not be small, especially if the problem of the shortage of money in the federal budget is solved in the usual easiest, but also worst, way--by raising the rates of the basic turnover tax.

7045

CSO: 2800/23

YUGOSLAVIA

CROATIAN OFFICIAL DISCUSSES LCY DOCUMENT ON PERSONAL EARNINGS

Zagreb DANAS in Serbo-Croatian 1 Oct 85 pp 11-14

[Interview with Andjelko Jukic, executive secretary of the Presidium of the Croatian LC, by Josip Vukovic: "The Enticing Slogans of Leveling"; date and place not specified]

[Text] DANAS: Recently the LCY Central Committee adopted and forwarded for public discussion (you are a member of the working group for following up the discussion) a document on "political-ideological issues in achieving the constitutional status of the workers in decisionmaking and in the disposition of income and resources for reproduction," which has received quite a bit of attention and evoked quite a few questions, including whether it is a question of strengthening social welfare or solidarity at the expense of remuneration according to the results of work. Tell us by way of introduction what essential topics are dealt with by that party policy document.

Jukic: This is a critical analysis of the state of income relations in which several really crucial problems are pointed up on an absolutely sound basis. There can be no dispute that associated labor has not come even close to taking command of the conditions and results of its labor, that the economy's ability to generate capital has followed a negative trend for years, that in the sphere of expanded reproduction the decisionmaking of the workers is out on the margin, that socially unacceptable conditions have been created in conditions for the realization of income, that personal income comes last in distribution, and so on. In short, that document does a good job of taking note of the weaknesses of present practice. Whether or not the best solutions are offered in it is another matter. It is the business of the public discussion to confirm or refute that.

DANAS: What is the essential thing in the proposals offered?

Jukic: To start with a question which seems not to have any practical consequence, but is very important to the entire system of distribution since it determines everything else. That is, in this document the commitment embodied in the system that income is the basic motivation behind the conduct of economic activity and the source from which all needs of society are to be met has been abandoned, and the emphasis has been put on the workers' obligation to above all augment the resources for social reproduction through their labor.

This is a different point of departure in ideology and theory, and positions also have to be taken on that during the public discussion.

DANAS: The problem of the relationship toward the resources for social reproduction has also been defined in the Long-Range Economic Stabilization Program. Something has certainly already been accomplished in practice, but it calls for new changes.

Jukic: That is right. A social compact concerning income has been adopted at the level of Yugoslavia, a number of new criteria to govern the distribution of income have been introduced; they give considerably greater importance to optimum use of social resources in this area. Along with the criterion of income per worker, the indicators of income relative to assets employed, accumulation relative to resources invested, and gross personal income per worker have been introduced, which represents very essential changes in the system of distribution of personal incomes. Incidentally, the very purpose of introducing a real rate of interest and depreciation was to alter attitudes toward more efficient use of social resources. The problem, then, does exist, and should not be denied, but still we cannot get around the question of whether that means it is necessary and justified to shift the weight of the system toward the use and augmentation of social resources or whether this can be accomplished by enforcing the Law on Associated Labor and the constitution--that is, with the system already set forth, combined with the practical adjustments which I have mentioned. The question can be put of why we have not entered into a serious and scientifically grounded analysis and why certain essential commitments in the system have been so little realized and so difficult to realize in practice. I personally express doubt about whether our experience with this and many other documents will not be that we harbor an illusion that it is sufficient to merely adopt a norm, a statute, a commitment, for everything in life to immediately be different.

DANAS: And in real life it is not all milk and honey, but low output, low productivity, and pay envelopes so small that they do not motivate people to work. Social welfare, as everyone is saying, is not an economic incentive at all.

Jukic: The logic of socialist commodity production emphasizes the economic and production functions of the personal income. Any neglect of that fact severs the organic tie between personal income and business performance expressed in income, and that in turn seriously diminishes the worker's motivation for better conduct of business. That is in fact why this draft, although it does separate the personal income into two parts, emphasizes its social welfare function by stating the demand that the worker must be guaranteed financial and social security, but still one cannot fail to emphasize the necessity of the relation between personal income and the results of work. That is why it is said: "The personal income on the basis of current labor must be equal for the same quality and quantity /and results of labor!/ (in italics) (Emphasis supplied by A. J.)

DANAS: The emphasis on the criterion of the results of work has not excited the public, but it has been aroused by the demands to guarantee approximately the same personal income for approximately the same work, which would signify a kind of return to the "pay categories" we had after the war.

Jukic: The same personal income for the same work is a fine, but very deceptive slogan. Which makes it acceptable without any very profound reflection. But the literal application of that commitment would have the result that the same personal income would be received by the person whose product has not been accepted by the market and the person who cannot keep up with the demand for his product. That would be in direct opposition and conflict with the basic function of the personal income with respect to motivating output. As has been sufficiently confirmed, I think, by our present leveling.

This new form of illogical leveling out of earnings would be still more baneful. Incidentally, one can agree with the idea that approximately the same income should be paid for the same work, but only provided the business performance the collective has achieved is approximately the same.

DANAS: Otherwise approximately the same application would signify that a portion is taken away from those whose business performance is better and given to those whose performance is poorer.

Jukic: And some other things as well. We dare not forget how that idea contradicts our fundamental social commitments. If it is applied, there is no market, there is no production of commodities, there is no self-management ... and the personal income becomes exclusively a matter of social welfare.

DANAS: Now that we have mentioned taking away from the better performers in order to put them on a level with the poorer ones, there is also a dispute over who is to guarantee the personal income and to whom it is to be guaranteed.

Jukic: Exactly. This brings us to those more subtle questions which are not evident on the surface. If labor power is a commodity, if there exists a market of labor, then anyone who hires that labor power and labor pays the price for it which prevails on that market. That is the wage. That owner of resources and capital himself suffers the favorable and adverse consequences of the market and the fate of his product. Under capitalism that would be the capitalist. In state socialism it is the state which takes upon itself all the shortcomings and success in the conduct of economic activity, and it pays the worker a wage, which does after all express a certain social security. That status of the workers is not the same as under capitalism, since there are also certain other social implications in society. However, the question is who then in our context should be paying that wage? Who? The worker to the worker! We could agree in society up to what level to siphon off resources in the name of solidarity, and then beyond that we would not do it. As soon as that siphoning is increased, then the system no longer has anything whatsoever to do with the system of socialist self-management. These, then, are very serious ideological issues!

DANAS: As far as solidarity is concerned in the system of socialist self-management, that has been stated very precisely and unambiguously by the Law on Associated Labor. Is it an exaggeration to ask why that has been forgotten and what purpose there is, then, in this public discussion?

Jukic: That article of the Law on Associated Labor says approximately this: every organization of associated labor which in the conduct of its business cannot guarantee a level of income which covers the lowest level of personal income and minimum accumulation agreed on through self-management must become an object of concern on the part of society. At this point a red light goes on for the sociopolitical communities, they then take penalty measures, so that at least that collective does not go on showing losses. This, then, would be the lower criterion of the social justification of a particular production. Unfortunately, this is not applied in practice, which is probably why it has been forgotten. The draft version of the views [of the LCY Central Committee] offers a somewhat different mechanism. The idea of it is that that organization which cannot with its gross income cover the portion of personal income based on current labor would come under public scrutiny. I do not know which solution is more effective, although I do think that the one in the Law on Associated Labor is of somewhat better quality. But it is not a question of a norm, but of the social climate, do we want to enforce it or not?

DANAS: For a rather long time we have debated the ideological issue of whether our economy is a planned economy or a market economy. And when one has a little of the one and a little of the other, then productivity and remuneration according to labor are the first to suffer.

Jukic: I agree. After all, as soon as economic laws cease to be operative, that is, as soon as there is no very free market, then it is clear that income is not an expression of higher or lower productivity, but an expression of better or poorer position in the system, so that even personal incomes do not express that relation. They are then the result of factors outside the economy, government instruments and other favoring circumstances....

DANAS: Is it not easy to recognize those differences in income and personal incomes from one branch or grouping of the economy to another in the story about the same incomes of the cleaning woman in one organization and an engineer, say, in another work organization? Or the kind of motivation to work of the 15,000 workers in Zagreb whose personal income is just slightly more than 2 million old dinars?

Jukic: The question of primary distribution and the conditions for realizing income and personal income cannot be resolved with a wave of the hand. The problem of larger or smaller income and personal income requires an effort on the part of society to bring conditions for the conduct of economic activity into line. It is not good if all the differences in market position and the instruments of the economic system are indicated through differences in income, and if this results in differences in personal incomes, but I would be so bold as to say that differences in income (unless it results from monopoly) could have an exceedingly constructive impact on processes toward socially desirable restructuring of production. It would be socially undesirable to create the illusion that we have to retain all production operations in the present volume through personal incomes. Here again the market must be a stronger selector, since up to now we have often made the mistake of socializing idleness and have thus reached the absurdity of the situation in which no one can go under.

DANAS: Has this led to a policy of simplification in practice? In this situation of crisis hasn't personal income been turned into a form of social justice, rather than an economic motivation to fight for higher productivity? To what extent has the policy of "the same stomachs" been nurtured as well by conscious political action? And finally, isn't the almost constant pressure precisely on the level of the guaranteed personal income another contribution to that?

Jukic: There are elements of an erroneous political intervention, of pressures. But I am afraid that it would be bad to boil everything down to just bad politicians putting pressure on some social welfare aspect of the personal income, and that is why things are not working. There also exists another objective side. As soon as the total level of production and the standard of living drops, the pressure on the social welfare function of the personal income increases. And that means that the pressure for leveling is also great at such a time. When income is increased, average personal incomes are also raised, and the room is automatically opened up for greater motivation. But if on the other hand a low total income is accompanied by a subjective factor which often flees the "conflict" which could result from a real distribution according to work, then there is no drawing the line between work and idleness, nor between knowledge and ignorance. The personal income thus becomes an institution of social welfare which guarantees a minimum level of existence, while the desired level of the standard of living and of personal consumption is sought through moonlighting, through commerce, through the possession of property, that is, in the gray sector of the economy.

DANAS: But today it is the personal income which is the remainder left in income once all the obligations have been met to finance the government, social services, contractual obligations and other obligations. There are some 30 other appropriations which are made before personal income.

Jukic: It is true that personal income has fallen that low and that it is the only item that has been bearing all the consequences of the level of business performance. It is just as obvious that all segments of society are not sharing that fate. The draft of the views [of the LCY Central Committee] explicitly demands therefore that the personal income of the worker take the priority position in distribution. It is certainly necessary to emphasize that we are talking about the gross personal income, since if we were to give the net personal income the same position as funds for pensions, health care, education and certain other vital needs, we would not solve the problem. To be sure, the level and degree of satisfaction of particular needs may be the subject matter of agreement and adjustment (that is something the public discussion must answer), but the fundamental principles would have to be preserved. After all, the workers want to work and desire to work, but they also want to earn an income.

DANAS: Isn't there a trap in the argument that there is no restriction on the level of the personal income until a limit is set for idleness?

Jukic: There ought not to be a limit on the level of the personal income which is the result of work, although that level is nevertheless limited by

social productivity as a whole. Let me use an analogy--the best worker in Albania cannot have the same pay as the best worker in Austria, even though his personal productivity is higher. So, there is no restriction provided respect is paid to the social productivity of Yugoslavia, of the particular community, republic or province. That productivity differs essentially even from one region to another within the same republic and province. And second, if we agree that there is no restriction on the level of the personal income, then we have to open up the limits that do exist not only upward, but also downward. There ought not to be limits on the low personal income either. Perhaps at least not down to the level of the guaranteed income. After all, if we allow all the average and poorer workers to receive the average, then there is not very much room for rewarding good performance. That is the type of opportunism that has made its way into many collectives.

DANAS: Is there a collision between social welfare policy and solidarity on the one hand and the motivation for higher productivity on the other? Who, for example, will be motivated to raise productivity 10 percent if he knows that this will mean he loses his good position on the housing list, the family supplement, and so on?

Jukic: Yes, that unfortunately is a perpetual collision which we will have a hard time overcoming altogether. The very principle of solidarity is by its internal logic in conflict with the motivation for larger production. These are some of the typical aspects of social welfare policy, and I think that in this area it is not possible to achieve an altogether harmonious operation, but it is possible to essentially alter the present situation. As for funds for social services, this form of solidarity must also rely, at least in part, on the results which a worker achieves in his work. To be sure, we say in advance that any worker who earns so much and so much comes under the social welfare category, but we first should analyze in detail whether that low personal income of his is the result of his idleness or of his objective position and of his impossibility to work more and earn more.

DANAS: Nevertheless, aren't there cases when the better workers "flee" the poor work organization and go to a better one? Aren't we using the resources for the social services to actually give greater incentives to the poorer workers than to the good ones?

Jukic: I would not say so, since in the final analysis these resources are always inadequate. In the social compact on income we set a limit on the level of appropriations for the social services, and therefore they cannot be decisive in the job changing you mentioned.

DANAS: But it is true that in some work organizations it is mainly the poorer workers who are left?

Jukic: That does occur. But that is another matter, something that indicates that a production operation which is unable to provide a larger personal income should either be abandoned or shut down. And something else: the Long-Range Program ... also contains a rather delicate innovation--the problem of the monopoly of labor. That is, it is certain that we can use the personal

income to differentiate work from idleness to some extent, but we have completely neglected and rejected the application of that measure which means that someone could be left unemployed if he does not work.

DANAS: How do you explain the fact that at one and the same time we have leveling and large social differences in this society?

Jukic: A sizable portion of the social differences do not originate in the personal income. The extreme cases are isolated. There are growing differences in society based on income, be it legal or illegal, not based on work, because of the shortcomings of the system or because of semicriminal behavior. Differences based on personal incomes arise out of some sort of income from capital, monopoly or the favorable instruments of the system which make it possible for income to be realized without much trouble and then divided up. If we do not solve this, then whatever system of distribution we use, it will not in and of itself remove differences in personal incomes arising out of position in the realization of income. Regardless of whether we apply what is offered by the draft version of the views, which is to divide personal income into two parts, or on the other hand the provisions of the Social Compact or perhaps some third solution, unless we drain off that "unearned income" which is the result of a favorable position, the one who has a larger income or more income will always and automatically become entitled to larger personal incomes as well.

DANAS: If stabilization means a turn toward the economy, how is this achieved in view of the immense number of government administrative measures? What room is left here for self-management?

Jukic: At this point that room has been so restricted that worker decisionmaking has been reduced to almost what it was in the administrative period of our development. There have been recent attempts to artificially impose on us a confrontation among the market, the operation of economic laws and the system of self-management, which in my opinion is nonsense. It is precisely in the freer operation of economic laws that self-management finds adequate room for the worker to decide not only on distribution of what has already been achieved, but also about how it is to be achieved in the future. The way it is now, when the government decides on everything (in the Federation, the republic, the opstina), there is no room for self-management, since everything has been determined and distributed in advance. Then it is also easiest to say that self-management is not working.

DANAS: Nevertheless, is there a fear of the market and of market laws in society at large?

Jukic: Certainly there is. To be more precise, there are opposed opinions. Some people advocate a completely free market such as no longer exists even in the most expressly capitalistic countries, while others would abolish even the small market that we have and would take everything back to the system of state socialism with centralistic command control. The one extreme actually gives rise to the other. But both should be rejected.

DANAS: Yet doesn't it happen too often that we see the old and superseded solutions being offered, even those which both we and the world have written off?

Jukic: There is no need to be amazed at that. In a crisis situation which has affected not only the economic system, but the political system as well, all sorts of solutions, theories and ideologies are allowed in. I would even say that any proposal of changes, however wrong it might be, receives support with the public, since it wants a change because of the situation it is in. All those offering something of the kind take that into account, along with the ignorance of that same public, which is not always in a position to get to the heart of the thing and evaluate whether it is sound and progressive or not.

DANAS: Because of all these outstanding issues we have been talking about, can you tell us what the working group for coordinating the public discussion, which you head, is insisting on?

Jukic: We are insisting that the draft version of the views that has been offered is not a final document and that that is precisely why it has been put up for public discussion, so that it would be broadly and freely discussed.

DANAS: Because of the social climate at the moment, is there a danger that that discussion would be similar to the one about the foreign exchange law?

Jukic: That does objectively exist. However, there is another problem. Often we treat the documents of the LC in a manner which does not suffer objection. Even though the draft version of the views was prepared in the bodies of the LC, people are all but asking if it is a breach of party discipline whenever someone casts doubt upon some of its solutions. I think that is not the way to look at it. The LC is building an open society and is at the same time opening up itself, which is in fact why it has initiated the public discussion. But not with the apologetic intention of supporting every solution that has been offered.

The very purpose of the discussion is for everyone to say in public what he thinks about this, to confirm it or reject what he does not agree with, so that it is ultimately not accepted if he has arguments and can back them up.

7045

CSO: 2800/28

YUGOSLAVIA

ANDOV DISCUSSES NEW CONCEPT OF PERSONAL EARNINGS

Belgrade KOMUNIST in Serbo-Croatian 11 Oct 85 pp 10-11

[Article by Stojan Andov, MA]

[Text] There is no question that it was absolutely necessary for the LCY Central Committee to take the initiative toward clarifying the political-ideological issues related to the constitutional status of the workers in decisionmaking and in the disposition of income and resources for social reproduction. That kind of initiative, that is, does not contradict the provisions of the Long-Range Economic Stabilization Program, but is in fact absolutely necessary if we really desire to carry out those provisions consistently. The main cause of the standstill in carrying out the Long-Range Program ... is that differing and indeed even diametrically opposed assessments and views have arisen in the context of the efforts to make the necessary changes in the economic system.

Those differing and altogether opposite views and positions taken in practice so far have in fact become the greatest impediment to rapid and effective changes which must necessarily be made in carrying out the Long-Range Program. And all those who defend one of these views explain it and substantiate it in such a way that it is precisely that view and no other that coincides with the interests of the workers and guarantees their constitutional rights. The standstill in carrying out the Long-Range Program ... will compel the League of Communists of Yugoslavia, in its status as the factor most responsible for the country's development and destiny, to intervene at all points where a standstill has occurred and where changes have to be made. However, that kind of intervention, regardless of the intentions, should it persist, will inevitably give rise to its acting as a political arbiter when particular, specific and indeed even technical decisions are made, which is both unnecessary and indeed even dangerous.

Grabbing the Middle Link

In order to avoid that danger, the League of Communists has to discover the central link which is the origin of all the threads of the country's economic organism and take hold of it.

That central link encompasses the status of the workers in decisionmaking and the disposition of income and resources for social reproduction. The attempt to portray the draft of the views of the Central Committee in public as an insignificant or indeed even unnecessary dressing up of what is referred to as earmarked distribution--reflects an inadequate grasp of the essence of the subject matter. The draft version of the views does cover the problem area of distribution, but not in the context in which that distribution has been conceived over the last 10 years or so in our scientific and indeed even broader community, i.e., as an area shut off from the entirety of the process of social reproduction.

In opting for the Draft of Views the Central Committee of the League of Communists has actually initiated discussion of relations in distribution in our socialist society in this phase of its development.

However, the League of Communists has also acted like this in the past in periods when society stood at a crossroads and when a revolutionary change of direction had become indispensable. Thus after the transition to socialist worker self-management of enterprises the new possibilities could only be glimpsed in material and social development for several years. The League of Communists then initiated discussion of precisely that problem area which we refer to as relations in distribution. In that discussion conceptions of the essence of certain basic economic categories in socialist society were altered, such as the plan, the market, money, prices, income, and so on. New solutions were also offered in the economic system on the basis of that new awareness. Some of the knowledge gained was such that it later made it possible for the League of Communists to introduce commitments in its program concerning production relations, relations in distribution, and in general the objective economic laws in socialist society, commitments which have lasting value and have gone far beyond the place and time in which they came into being.

There Is No Need To Flatter the Workers and the Working Class

The economic crisis is demonstrating that today the country stands at a crossroads, and the League of Communists has the task of indicating and plotting the right roads for future development. It is that process which the Draft of Views initiates. Various doubts, unless they are the consequence of momentary vacillation, can be only an obstacle to beginning a truly creative discussion of the problems and contradictions that have piled up concerning relations of distribution in our society. That is why those doubts should be clarified and eliminated as soon as possible. This is one of the urgent tasks of the League of Communists.

There are even misunderstandings about the way in which the problems concerning relations in distribution have been raised in the Draft of Views. That is, there have, for example, been hints to the effect that the way in which the Draft of Views treated the problem of the relationship between the workers and the resources for social reproduction can be taken as having blamed the workers and the working class for the use of resources for social reproduction not having been efficient enough. Arguments are advanced in this connection

to the effect that in practice up to now the workers have proven to be the factor in earmarked distribution who behaved rationally, since even under difficult conditions they did set aside a sizable portion of net income for expansion of the material base of their own labor and social labor. Figures are given in that context which show that with respect to the share of investments in the social product our country has over a lengthy period of time been at the top of the world list, but in terms of average real personal income there are more than 100 countries ahead of it. It is said that the use of resources for social reproduction has not been efficient enough because of other factors operating in our society (statism, technocracy, bureaucracy, and so on) and that the workers and the working class are the least to blame.

However, in raising the question of the relationship between the workers and resources for social reproduction from the standpoint of the exercise of their rights and discharge of their obligation to expand the material base of their own labor and of social labor as a whole, the League of Communists does not do this from the standpoint of some abstract justice. Nor is there any need to flatter the workers and the working class, since that is not what they expect of it. The League of Communists must start with the real facts, it must examine their deeper essence in real life, and on that basis build its approaches to posing and solving the most complicated problems in society's development.

And the facts show that for two decades now the efficiency of use of resources for social reproduction has been declining, that this negative trend has been characteristic of the entire country, not only of all the republics and provinces, but indeed of all the branches of the economy. The League of Communists must look for the real causes of that situation. In so doing it dare not be satisfied with explanations to the effect that the principal cause of these negative trends lies in the continuing strong manifestation of statism, bureaucracy, technocracy, our practice, or, as some have recently been trying to prove, that the main obstacle to advancement in our country is the incompetence of the so-called macromanagers, i.e., the formulators of the country's economic policy. The League of Communists dare not be satisfied with such explanations, not because it is not true that there is statism and bureaucracy and technocracy in our society, nor because it is not true that we do have formulators of economic policy who are not as able as they should be or indeed even incompetent. On the contrary, it is true that that is the case and that those things are strongly manifested. However, the question is this: What social force is able to restrict the area for the operation of statism, bureaucracy, and so on? The League of Communists has a clear answer in readiness: only the working class can be such a force. But why has it not been operating in that direction up to now?

It is obvious that the general belief that the working class is the prevailing force in society, a force that is ready to act decisively toward finding progressive solutions, is not enough, but certain other factors are also needed to set it in motion toward such action. The working class is not some abstract category. It is made up by the mass of workers, who live their lives and create what they do in specific material, economic, social and other conditions. Their interests, above all their economic interests, stimulate them to be active. If the workers see and feel in a strong way that more efficient

use of resources for social reproduction is in their economic interest, then in order to pursue that economic interest of theirs, they will develop activity which will restrict the space for operation of all other factors that would hinder them in this. Accordingly, the two-faced nature of statism and bureaucracy lies precisely in the fact that their protagonists constantly reiterate that the working class is the ruling force of society, that the self-management rights of the workers in organizations of associated labor are inalienable, and so on, while at the same time they absolutely do not allow the immediate economic interests of the workers to be directly related to effective decisionmaking and use of resources for social reproduction precisely by the workers. The LCY Central Committee and the Draft of Views stress and specifically point to that vital connection between the concrete economic interests of the workers and the effective use of social capital. That connection is also being insisted on in the new conception of the personal income of the workers, which is to be realized in two ways.

Why There Is Doubt About the Ideological Purity of the New Concept

However, there have been differing and indeed even diametrically opposed views in the public statements made concerning the new conception of personal income contained in the Draft of Views. There have mainly been two kinds of doubts expressed in connection with this conception: first, there is doubt--if it can be put that way--about the ideological purity of that conception, and second, there is doubt about its feasibility from the standpoint of the quantitative possibilities afforded by the balance sheet.

The ideological doubts concerning the new conception of personal income are substantiated by the argument that it actually signifies an abandonment of the constitutional conception of personal income. It is said that personal income is a completely unified and rounded-off category and that only if its integrity and entirety are preserved, does it and will it represent the material expression of the new socioeconomic position of the workers in self-management. If personal income contains both parts, one realized on the basis of the worker's performance at his work station, by performing his job duties and tasks, and the other part on the basis of his successful contribution to the economic employment of social capital, and insofar as the first part of the personal income actually affords reproduction of labor power, then this other portion of the reproduction of labor power will be an altered form of worker wages and will hold the worker in the wage relation. That is why dangers of an ideological character presented by the new conception of personal income are being suggested.

However, this is only apparently so. There is no question that personal income is an entity in and of itself, but, like any organic entity, it necessarily consists of parts. The constitution itself specifically emphasizes the principle that the material position of the worker and his status as a protagonist in the process of social reproduction is determined by the results of his present and past labor. If the worker is to discharge his constitutional obligation of expanding the material base of his own labor and the labor of society, then he must necessarily, first, maintain that material base within the limits he inherited, and then on that basis also expand it. The material

base of labor certainly is not confined solely to the means of production, but also consists of the working ability of the workers to activate those means of production. The means of production are dead objects if the beneficial effect of the worker's labor is lacking. If the worker is to achieve simple reproduction, then, it is not enough to merely reproduce the means of production, i.e., the implements of labor and the subjects of labor, but he must also reproduce his own work abilities. If the worker does not succeed in this and if this is not ensured by the system itself, then all assertions and explanations to the effect that the wage status of the worker has been abolished in the society of socialist self-management are reduced to mere talk. Achievement of simple reproduction, and achievement of reproduction of the labor force of the workers within that framework, must be expressed in an altogether clear and distinguishably tangible and comprehensible form. This has to be explicitly and clearly related to the worker's immediate economic interest. That is why the necessary compensation for reproduction of labor power must in fact be expressed as a particular and separate part of the personal income.

If the worker expends his labor power effectively in the work process, i.e., if he expends it in performing the work tasks assigned to his work station to their full extent, at the required pace, and up to the required standard, then in the work he has done at his work station he has maintained and passed on the value of the subjects of labor and implements of labor in the value of the product and has created new labor at least as great as the value of his labor force. That personal income, which is meant to cover the value of his labor power, must be guaranteed to the worker so long as his tasks at his work station are efficacious and make economic and business sense, that is, so long as business activity is conducted without loss. If the organization of associated labor has losses and if there is a social interest in correcting the causes of those losses, which are not related to negligent and low-standard performance of work tasks by the workers, but to the orientation of the organization's program, to the technology, etc., and if that interest of society is expressed through the interest of specific entities, organizations of associated labor and banks providing emergency financial aid, then the financial aid program must necessarily furnish the resources from which personal incomes will be paid up to the level of reproduction of the labor force of the workers expended. If in certain cases the interest of society is not expressed in the manner defined by laws concerning an organization of associated labor operating at a loss, then the workers are to be guaranteed a personal income up to the level of reproduction of labor power from sources outside the organization such as joint reserve funds until the status of that organization's existence is resolved.

The second part of the personal income, the part which comes from successful economic employment of the resources for social reproduction, differs from the first part even in certain of its essential provisions. In addition to performing his immediate tasks, the worker has to be interested in the fate of the resources being set aside to expand the material base of labor. If the worker is not immediately and strongly interested in the fate of those resources, then forces outside the working class will establish control over those resources, and there can be no question of higher efficiency in the economic employment of social capital. Precisely because the worker in a

socialist self-management society does not work only to carry on simple reproduction, but is constantly expanding the material base of his own labor and social labor as well, his behavior has to be strongly stimulated by his immediate interest. That is why the second part of the personal income must be directly and functionally dependent upon the continuing achievement of expansion of the material base of labor which the worker accomplishes within the limits of his organization of associated labor and by means of it. Thus whenever the worker achieves normal results in performance of tasks at his work station and in the economic employment of social capital, his personal income will exceed the limits of the value of his labor power, which is an economically exact proof that his wage position has been abolished. Abolishing the worker's wage position must be measurable and must be visible to him. This is expressed through his interest in successfully performing his immediate tasks at his work station and through his interest in an organic dependence upon the fate of that part of the result of his labor which he has turned into social capital. Only insofar as the worker is directly pursuing his own economic interest and thereby exercising control over the social capital which he has created will he truly have an interest in exercising that kind of control. That is why without the necessary reassessment one should not place too much confidence in warnings originated from certain positions that were established in advance and without question to the effect that the new conception of personal income is not sufficiently clear.

The Oversimplified View of the New Conception of Personal Income

The second type of objection addressed to this conception is quantitative in nature and has to do with the balance sheet. That is, it is said that the new thing in this conception is that by insisting on guaranteeing reproduction of the worker's labor force, it has left open the question of what level of the value of labor power should be reduced and contains the implicit demand that the lower limit of the present personal income be shifted upward. But since the views are clear in their insistent opposition to leveling, this means that the overall level of the personal income would in real terms be increased by the simple operation of a comparison of a conception of this kind. Such an undertaking would cause inflationary developments in the country, the critics go on to say, since those movements of the personal income would result in a redistribution of the social product; thus the resources which are now intended for other purposes, for development in particular, would be siphoned over into the personal income.

Obviously, these objections originate in an oversimplified notion of the conception of personal income contained in the Draft of Views, which is seen as advocating a one-time undertaking, not a process based on a fundamental shifting of the worker's immediate economic interest. However, one thing is clear--those objections contain an implicit suggestion that everything should remain the way it has been up to now whether we are talking about the personal income of the worker, what it is made up of, or the way in which his economic interests are expressed in the work process and in the process of social reproduction.

The LCY Central Committee has rightly placed at the center of attention the political-ideological issues related to achieving the worker's constitutional status in decisionmaking and the disposition of income and the resources for social reproduction. At this moment we are now in a phase when political-ideological issues in this area are truly the most important. Those obstacles which have been arising in the creative commitment of science and practice are also political-ideological in nature. The League of Communists intends through this discussion to make it easier for science and through a scientific effort aimed at defending the present solutions to undertake new intellectual breakthroughs in order to create prospects for the future development of socialist self-management.

7045

CSO: 2800/27

YUGOSLAVIA

BRIEFS

PRIVATE SHOPS IN SERBIA--Last week the Serbian Presidency examined the policy for developing the artisan and service sector in the next medium-term period. Despite verbal support over many years, facts show that small business accounts for a small, almost negligible, part of the total economy. At the beginning of the current medium-term plan there were 35,395 artisan-service businesses in Serbia, while at the end of the last year there were 38,600. In the total small business economy throughout the country the private sector accounts for 120,000 workers [as received]; in Serbia proper the number is about 20,000 workers, and if the provinces are included, the total for the republic is 35,000. Employment in the private sector of the small business economy in the last 4 years has risen an average of 6 percent and 3.1 percent in the socialized sector of small business. However, while 1,629 small business were newly registered, 1,445 went out of business in the first half of this year [in Serbia]. The Presidency stressed that opstinas must create good conditions for economic operation and the initiatives must be left to citizens and not to the opstinas (whose role is to implement the laws). Appeals were made for a more stable tax and credit policy and the Presidency advocated that the artisan sector have its own private organization and not be under the wing of the [economic] chamber which has stifled self-initiated organization of this sector. [Summary] [Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 21 Oct 85 pp 16-17] /12851

AGRO-INDUSTRIAL FOREIGN TRADE--The plan to export \$1.5 billion worth of food products this year will not come close to being met. According to the latest statistics, in the first 8 months of this year \$581.2 million worth of these products were exported, \$41.2 million (6.6 percent) less than last year at this time. Moreover, it is uncertain how much can be exported by the end of this year since production is inadequate to meet even domestic needs. At the same time, \$670 million worth of food products were imported, or \$24.2 million less than in the 1984 period but the export-import ratio is more unfavorable than last year. In 1984 for 100 dinars of imports there was 89.7 dinars worth of exports and the deficit amounted to \$72 million, while this year for 100 dinars worth of imports there are only 86.7 dinars worth of exports so the deficit has increased to \$88 million. The food-processing industry exported \$320 million worth and imported \$214 million worth; but this \$106 million positive balance is very small considering the number of workers and funds this branch has. The beverage industry also achieved a positive balance (41 million worth of exports and only \$9 million worth of imports), with the wine industry exporting \$1 million worth and importing nothing. But all other

branches of this industry had a deficit (field crops (146 million, fruit \$66 million, livestock \$10 million, fishing \$3 million, and animal feed \$2 million more imports than exports) which resulted in the total negative balance of \$88 million. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 31 Oct 85 p 3] /12851

MONTHLY EXPENSES OF POPULATION--According to a survey by the Zagreb Institute for Market Research, only 5 percent of Yugoslav households are believed to meet completely all their regular needs from their total [monthly] income, 19 percent do not manage to meet payments by the end of the month, while the 76 percent between these two extremes only partially cover current needs from basic and supplemental income. Almost two-thirds of those surveyed (about 4.3 million households) believe that they will not live as well this year as they did last and only every 14th household believes life will improve, compared to 6 years ago when almost every third household expected the future would be better. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 31 Oct 85 p 4] /12851

DEFECTIVE GOODS RETURNED--The Yugoslav Organization for Standardization and Quality (JUSK) will hold a conference on the quality of Yugoslav exports in Ohrid 24-25 October. Other co-sponsors of the conference include the Federal Committee for Energy and Industry, the Federal Secretariat for Foreign Trade, the Federal Committee for Market and Prices, the Federal Bureau for Social Planning, the Interest Community for Economic Relations with Foreign Countries, the Yugoslav Economic Chamber, and the SOUR (complex organization of associated labor) "Jugoinspekt." The president of the Federal Committee for Energy and Industry, Rade Pavlovic, said recently that up to 4 or 5 percent of the value of total exports was lost annually through poor quality and it is estimated that about 3 billion [dinars] in foreign exchange is lost each year because goods are not of sufficient quality. Poor quality goods have been returned by a total of 41 countries, including Guatemala, Zimbabwe, Albania, Cyprus, and Bulgaria. Returned goods include furniture, vehicles, knitwear, machines, glass, metal materials, electronic and telecommunication equipment, cables, household appliances, plastics, cleaning materials, cosmetics, and canned meat. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 23 Oct 85 p 12] In the first 9 months of this year 4 billion dinars worth of goods were returned from foreign markets because of poor quality, or an amount equal to that returned in all of 1984. Most was returned by the USSR, which is not unusual since this country is also our biggest buyer. Other countries which returned goods were Guinea, Liberia, Iran, and Iraq [as well as those cited above]. [Excerpt] [Belgrade RAD in Serbo-Croatian 1 Nov 85 p 8] /12851

CSO: 2800/49

END